

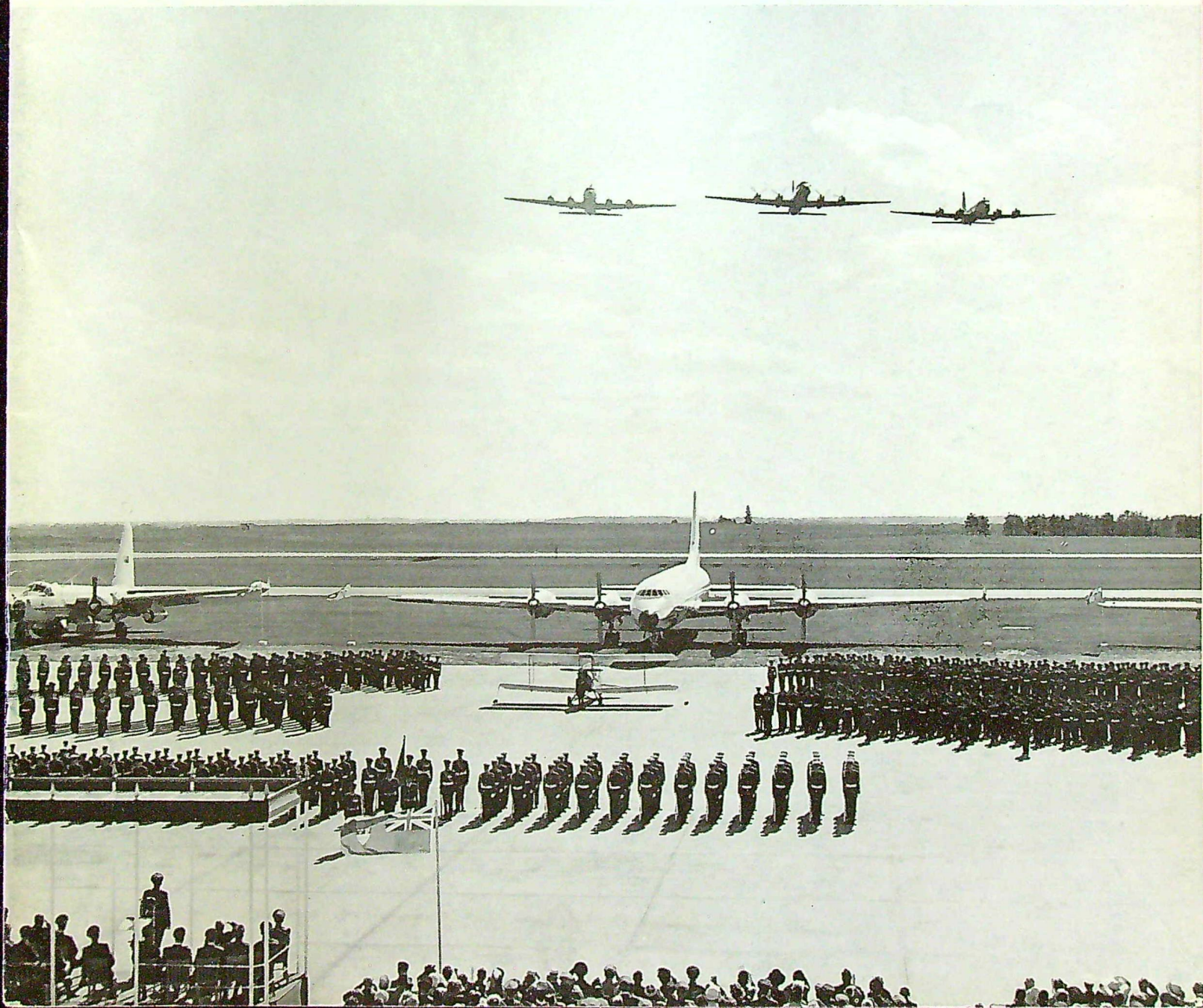


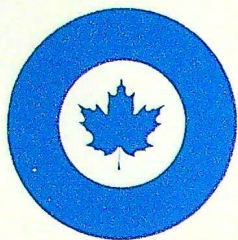
THE

# *Roundel*

VOL. 14, NO. 8

OCTOBER 1962





THE

# ROUNDel

Published on the authority of the Chief of the Air Staff, Royal Canadian Air Force

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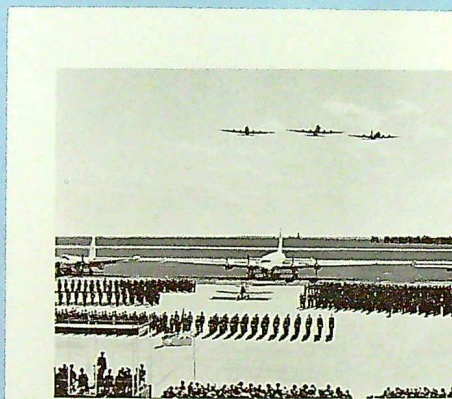
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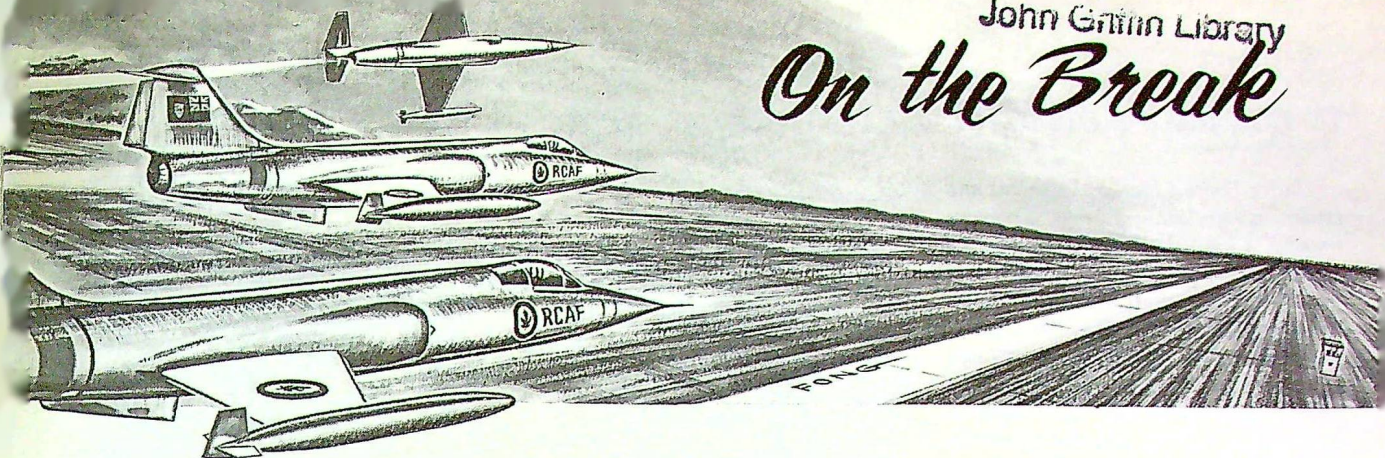
Editor, THE ROUNDel,  
RCAF Victoria Island,  
Ottawa, Ont.



THIS MONTH'S COVER

Air Marshal C. R. Dunlap officially took over as chief of the air staff from retiring A/M Hugh Campbell following this impressive ceremonial review at RCAF Stn. Uplands on 14 Sept. 62.

Views expressed in THE ROUNDel are those of the writers expressing them. They do not necessarily reflect the official opinions of the Royal Canadian Air Force.



Two international stories broke just at deadline for this issue. Both involved Air Transport Command and proved once more the fact that ATC lives up to its motto, "Versatile and ready."

The operation to New Guinea (page 8) recalls to mind a similar scramble which occurred six years ago next month, also at the request of the United Nations, to a trouble spot half way around the world. Coincidentally, a progress report on the RCAF in UNEF is this month's lead story (see page 2).

Five days after the airlift to New Guinea left Trenton, ATC despatched a *Yukon* laden with Canadian Red Cross emergency supplies to earthquake-stricken Iran. Fortunately for *ROUNDEL* readers, Cpl. Len James was aboard that aircraft (see page 9).

**D**URING the research and drafting stage, the page 11 story carried the working title "Tight Little Island," but, nestled as we are in the very shadow of Parliament Hill, we decided to change that before going to press. Technically, of course, Victoria Island is not an RCAF station at all — but just one of several Ottawa appendages to AFHQ's crowded quarters on Cartier Square. Some natives of the capital city we've talked to don't even know where Victoria Island is, vaguely assuming it to be somewhere off the British Columbia coast. We hope F/L Eric Boyd's article will put the record straight.

A radio-navigator recently turned public information officer, F/L Boyd wrote this story while stationed on the island in the directorate of communications. Last month he moved to the directorate of public relations, where his past PR experience in Winnipeg (he's an ex-editor of *VOXAIR*) should come in handy. Portapique, N.S., is his hometown.



**T**HE RCAF's Materiel Laboratory at Rockcliffe is described, beginning on page 24, by F/O David Rumbold. A native of Guildford, England, he emigrated to Canada in 1958 and joined the RCAF the following year. Although now employed as an aero engine project officer at Air Materiel Command Headquarters, F/O Rumbold wrote this article while he was coordinator of the laboratory.



When he's not officially tinkering with jet engines, he hobbies in photography and rifle shooting. As a matter of fact, F/O Rumbold is president of the Station Rockcliffe Rifle Club, and this summer was a member of the winning Ontario team in the Dominion of Canada Rifle Association meet at Connaught Ranges.

**A** WORD and picture resumé of the 1962 air cadet summer program begins on page 30. More boys participated this year than ever before in both the Canadian and international activities.

Although air cadets make no commitments regarding future military service (primary object of their training is good citizenship), the Air Cadet League recently compiled some interesting statistics covering 885 RCAF enlistments for the fiscal year 1961-62. Of this total 671 enlisted as airmen (17.1 percent were former air cadets), 150 as aircrew (37.8 percent were former air cadets) and 53 entered the Canadian Services Colleges (15.4 percent were former air cadets).

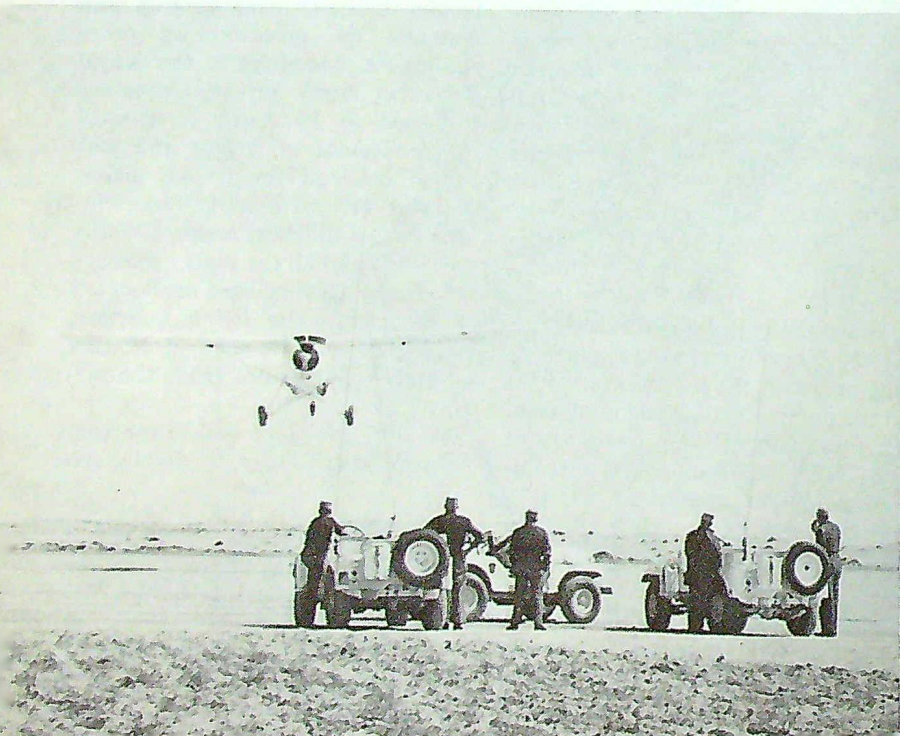
*At Paton s/p*

Editor



A *Caribou* sets course from El Arish on the Mediterranean to Sharm El Sheik on the Gulf of Aqaba, carrying mail and supplies for Swedish troops.

An *Otter* makes a low pass over a Royal Canadian Dragoon recce. patrol along the Israeli-Egyptian frontier.



dence for the need of UNEF forces. At El Arish RCAF aeroplanes co-exist with Egyptian-operated MIG-17s and occasionally these supersonic Russian aircraft carry out practice simulated attacks on their side of the airfield. The road between El Arish and Marina is shared by camels, donkeys, UNEF vehicles and Egyptian army convoys. The tense atmosphere also prevails at the living quarters at Marina which are surrounded by barbed wire entanglements and guarded by Yugoslav troops.

Number 115 ATU has two main roles: reconnaissance and re-supply. In the reconnaissance role the unit's aircraft make daily trips along the Armistice Demarcation Line (ADL) which separates Israel from the Gaza strip. The white-painted *Otters* and *Caribous* also regularly patrol the International Frontier (IF) which runs from the western border of the Gaza strip to the southern tip of the Sinai peninsula, a distance of some 135 miles. On a typical recce. flight an *Otter* will fly along the ADL over the Yugoslavian and Canadian Army sectors of responsibility. These flights are made at approximately 1,000 feet above the terrain to give good surveillance of any armed buildup or any attempt at infiltration. If any such activity is detected a radio report is sent to the nearest army camp, then a Canadian or a Yugoslavian ground party will investigate the report. On these flights a member of the Yugoslavian and Canadian Army is usually carried for liaison work.

In addition to regular recce. flights a No. 115 ATU *Otter* or *Caribou* will get airborne at any time at the request of the Army. At present the Royal Canadian Dragoons are making their marks on the sands of time as their radio-equipped and armed jeeps roller-coaster over a 50 mile sector of undulating desert country. If the army requests an aircraft to take a bird's eye view of something

suspicious, an *Otter* will scramble to oblige them.

Logistic trips take the unit's aircrew throughout the land of the Pharaohs. *Caribous* carry mail and supplies to Sharm El Sheik where Swedish troops are stationed to ensure that Israeli ships in the Gulf of Aqaba are not interfered with. Also at "Sharm" the Canadian Army provides signals staff and personnel to maintain the water distillation plant. Mail and ration runs are flown to Beirut, welfare trips to authorized leave centres are made to Cairo and special trips are flown to Port Said at the northern tip of the Suez Canal. The largest airlift job for the unit comes when Scandinavian troops are being rotated. On these occasions *Caribous* fly a shuttle between El Arish and Beirut — taking out tour-expired Norwegians, Swedes and Danes and flying in their replacements. On the latest shuttle approximately 1,000 troops were carried each way. Other spots visited by RCAF aircraft are Ras El Nagib and El Kuntilla, both in the Egyptian sector of the Sinai.

Travelling in Egypt is like going back to Biblical times. On flights to Sharm El Sheik the *Caribous* fly over Mount Sinai where Moses received the Ten Commandments. On liaison visits to UNEF HQ Gaza, the spot where Samson toppled the temple can be seen. Trips to Jerusalem provide the added attraction of visiting the city so often referred to in the Bible.

But, offsetting the few amenities of desert flying there are many disadvantages. Heat is the main problem. The aircrew plan their trips for early morning departures so they can be back at El Arish by noon. This is not always possible, however, because of unforeseen delays. So, as temperatures soar above 100 degrees, engines are robbed of power and wings are deprived of considerable lift. Pilots anxiously watch carburettor air intake temperature gauges as



At work . . . *Caribou* technicians (l. to r.): Cpl. M. Racette, Cpl. S. G. Duffy, Sgt. A. J. MacDonald, Cpl. R. Parker, LAC J. G. Lamontagne, LAC G. Y. Labrecque and LAC J. W. Norris.

At play . . . members of "the world's biggest sandlot league" softball team: (standing l. to r.) Cpl. M. Racette, LACs L. Gariepy, M. Anderson, J. Boettcher, P. Murphy, M. Crowe, Cpl. R. Parker, LACs A. Reid, D. Hersey, J. Lamontagne, (front row) LACs G. Williamson, M. Deforme, Y. Labrecque, J. Watt, L. Pettit.



they reach their maximum tolerances, making engine detonation a strong possibility.

The terrain south of El Arish is also something less than promising. The rolling sand dunes and featureless desert, which make visual navigation a problem, give way to mile after mile of rugged rock structure where a forced landing could be a shattering experience. Also, of course, radio contact cannot be maintained all the way to the UNEF outpost at the entrance to the Gulf of Aqaba. On these flights unit pilots give a final position report, then there is silence until they finally come into radio contact inbound. At Kuntilla, a desert airstrip where No. 115's *Otters* regularly land, tires and propellers are subjected to the flint-hard volcanic rock that makes up the strip. For at least one of the unit's pilots tropical heat is a drastic change to his former environment. Flight Lieutenant K. Young, Officer Commanding Flying, had previously flown with air transport command in the Arctic.

The non-flying types of the RCAF unit also have their work cut out for them. Wearing only shorts and shoes in a futile effort to keep cool, the groundcrew toil over *Caribou* and *Otters* to keep them serviceable. The excellent serviceability record indicates how well they have managed to cope with the problems of blowing sand and blistering heat. Another problem not encountered by their colleagues in Canada is the one of constantly removing bird nests from various parts of the *Caribou*. Sgt. C. A. MacDonald and his telecommunications airmen are justly proud of the fact that no aircraft has been grounded because of radio unserviceabilities.

Flying Officer R. Zimmerman, the accounts officer at El Arish, has a somewhat more complicated task than his counterparts at RCAF units in Canada. Salaries for the unit's personnel are paid in Egyptian



Wearing tropical gear and displaying copper-coloured suntans, two pilots of No. 115 ATU stand beside a *Caribou* during a quick turnaround at Sharm El Sheik (l. to r.): F/L K. Young and F/L G. Holmes.

pounds and piastres, so he must keep abreast of the fluctuations in that currency in relation to the Canadian dollar. To oblige incoming *North Star* crews and their passengers, he also patiently works out the comparative value of Italian lire, Greek drachma, English pounds and any other currency which comes across his paper-littered desk.

Marina, which is home for a year for members of No. 115 ATU and attached army personnel, is a World War II British Army rest home. The buildings are two-storey adobe structures encircled by verandahs and balconies. Although not up to RCAF standards they are, nevertheless, reasonably comfortable. Messing at El Arish naturally poses some problems. Milk is unobtainable and fresh vegetables are difficult to obtain. In addition certain precautions must be taken such as soaking eggs in chlorinated water, to prevent dysentery and regular consumption of salt pills, to restore salt lost through constant sweating.

The recreation program at Marina is similar to, but less elaborate than, the ones found at RCAF units in Canada. There is badminton, table tennis, volleyball, archery and the largest sandlot baseball facilities in the world. Evening movies take on a special lustre at El Arish, not only because of their entertainment value but because of the setting. The movies are shown outdoors in a courtyard between the officers' mess and the NCO's barracks. In front of the screen are rows of benches set up for the airmen, Canadian army personnel and for any of the Yugoslav troops who care to watch. The NCOs watch the movie from the balcony of their quarters while the officers sit on the roof of their mess hall. On a warm tropical night under a sky full of stars with a cooling breeze whispering in from the Mediterranean a most agreeable atmosphere is created.

A rather unique facility is the nine-hole pitch and putt golf course located between a barrack block



*North Star* flies over one of the seven wonders of the world, the leaning tower of Pisa, as the aircraft leaves Italy on the final leg of its long flight from Canada to Egypt.

and the barbed wire. Providing sand traps posed no problem, of course, as the entire course is built on sand. Providing "greens" required a little ingenuity. This took the form of spreading oil on the sand and letting the sun bake it hard, thus "greens" became "browns" and proved to be an effective, if unorthodox, surface for sinking a putt. The Mediterranean is only some 100 yards from the campsite, although there are two periods of the year when swimming comes to an end — mid-winter and mid-summer. In winter there is a strong undertow and in the height of summer the water becomes too warm to be refreshing. At all other times, however, the blue Mediterranean provides a pleasant fringe benefit for residents of Marina. It was the initiative of RCAF personnel, incidentally, which brought the value of the beach to light. The airmen built a cottage on the lonely beach and now it is no longer lonely. Following their example well-to-do Arabs, from as far away as Cairo,

began to build beach houses until now the original air force beach house is flanked on both sides by dozens of other summer homes stretching for hundreds of yards along the sandy shore.

Although not actually a part of the UNEF contingent, the RCAF's weekly airlift from Pisa, Italy, makes a valuable contribution to UNEF operations. *North Stars* fly a combination of passengers and freight on the five-hour flight to El Arish. Passengers waiting to board the aircraft resemble a meeting of the United Nations as bearded and turbaned Sikhs mingle with tall blonde Norwegians, Swedes and Danes and Canadians. At such a desolate spot as El Arish anything out of the ordinary is an event, so each incoming *North Star* is enthusiastically met by an impromptu welcoming committee composed of every available officer, NCO and man in the area. The airborne link with Canada and home brings in mail, movies and, most important for tour-expired per-

sonnel, replacements.

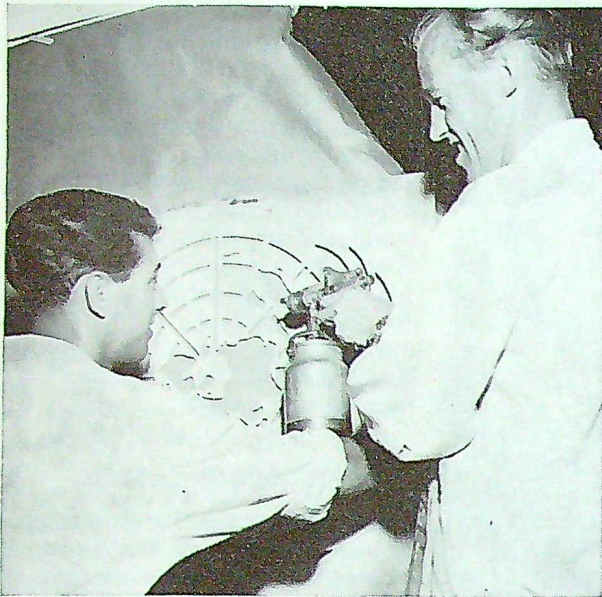
There is no doubt about it, the work being done by the personnel of No. 115 ATU on behalf of the United Nations Emergency Force reflects credit both on themselves and on the country which they represent. It is equally true that their work is done under difficult conditions. So it is understandable that, when departing personnel board a *North Star* for home, they are only too happy to voice their favourite Arabic phrase "Mausa Lama" — farewell to the desert. ©

#### UBIQUITOUS CARIBOU

CAT (Civil Air Transport), the Chinese Nationalists' Taiwan-based airline, is the first civil operator of the Canadian-designed and produced de Havilland *Caribou*. Two of the STOL transports were purchased last month to be used on CAT charter and contract services in the Far East. *Caribous* are used extensively by the US Army as troop carriers and also by the RCAF on UNEF duty in the Middle East.

#### CALLING EX-118 SQN. MEMBERS

Mr. N. E. Dawber, secretary of No. 118 Fighter Squadron Association, is seeking the names and addresses of former squadron officers and aircrew members in order to plan a reunion in the near future. If you were a member of No. 118 (F) Sqn., while it was at Rockcliffe, Dartmouth or Alaska and prior to its re-organization as No. 438 Sqn. overseas, the secretary would be pleased to hear from you and will keep you informed of developments in connection with the proposed reunion. He may be contacted at 403 St. Germain Ave., Toronto 12, Ont.



Corporal G. E. Hickey holds the stencil while Cpl. R. Wilkinson uses the spray gun to put the finishing touches to the United Nations' insignia on an RCAF Otter.



In its new UN colours, the Otter has its amphibious operations serviced at RCAF Stn. Trenton before being shipped to New Guinea for the UN operation there.

## RCAF NOW OPERATING IN NEW GUINEA

THE request came from United Nations Headquarters in New York: "Could Canada provide air support for the newly-created UN administration in New Guinea?" The Canadian government decided Canada could and an order was sent to AFHQ, which promptly instructed Air Transport Command at Trenton to get cracking. Within 48 hours aircraft and crews were on station in the South Pacific.

Two amphibious Otters, aircrews to fly them and groundcrews to service them were quickly assembled. Time was the essence. Two Hercules aircraft, which had been participating in the biggest northern airlift the RCAF had ever undertaken, were summoned to Trenton. The Otters were painted with the UN insignia and loaded into the Hercules. The Deputy Air Officer Commanding Air Transport Command, G/C G. J. J. Edwards, DFC wished

the members of the RCAF contingent 'God Speed', then the first of the Hercules was airborne for New Guinea.

The two No. 435 Sqn. transports headed for Canada's west coast — then to Honolulu, Wake Island and Biak, just northwest of New Guinea. The Otters were unloaded and assembled there and flown to Hollandia, the capital of Dutch New Guinea. The main task for the RCAF force will be to provide

amphibious reconnaissance and transport capabilities for the UN observers. Aircraft and crews will stage out of airfields on the southwest coast of New Guinea.

The RCAF contingent is composed of: W/C R. G. Herbert, DFC, Senior Canadian Air Advisor with the UN Forces in New Guinea; F/L A. E. Richards, commanding officer of the Otter force and F/Ls R. A. Bell and F. B. Stover; F/O J. H. Jones; Sgt. R. Lovejoy; Cpls. L. Zadwerney, H. R. Wright, D. A. Stewart, M. H. French and M. E. Freeman and LACs E. E. Turnbull, R. K. Coffee, D. J. Baur, G. W. Gibson and D. P. MacDonald.

Under terms of the agreement signed in August by the Netherlands and Indonesia, which settled the 13-year dispute between the two countries over Western New Guinea, the United Nations will administer the territory until May 1963. Ⓞ

W/C Herbert



F/L Richards



# AIRLIFT AID TO IRAN

by CORPORAL LEN JAMES

IRAN has been added to the ever-growing list of countries where RCAF Air Transport Command aircraft have landed on missions of mercy.

When disastrous earthquakes rocked Iran last month, causing death and destruction, the Canadian Red Cross asked the government for help in transporting emergency supplies to the devastated area. When the request for an airlift was received at ATCHQ the command reacted immediately. Within a matter of hours a *Yukon* aircraft was airborne for Iran.

The flight originated at RCAF Station Trenton with a 12,000 lb. load of supplies. The *Yukon* then flew to Toronto for a further 6,000 lbs. of cargo (transferred from a *Flying Boxcar*) and two members of the Red Cross. The *Yukon* then headed for Marville, France. After a ten-hour flight and a two-hour refuelling stop, the aircraft began the final leg of the journey to Teheran. The last lap was eight hours, via Pisa, Rome and Naples in Italy, Salonika in Greece and Ankara and Istanbul in Turkey. It was 0300 hrs. local time when the *Yukon* landed at Teheran's Mehrabad airport, but the city and its inhabitants were still awake and all the buildings were ablaze with light.

Although five days had passed since the first rumbles of the earthquake had announced a disaster of national proportions with untold thousands killed and injured, the work of rescue and assistance was just gaining momentum and many more days and nights of work lay ahead for the people of Iran.

On arrival the *Yukon* was greeted by Mr. Ralph Branscombe, the



F/L J. W. Carleton passes emergency Red Cross supplies to LAC V. Evanchiew at RCAF Stn. Downsview. The cargo was transferred from *Flying Boxcar* to *Yukon* for the mercy mission to Iran.

Canadian Charge D'Affaires in Teheran, and his wife. There were also groups of Iranian soldiers — weary, unshaven, and clad in uniforms which showed signs of the work they had been doing. With them they had trucks of all shapes, makes and sizes, obviously requisitioned from any available source to serve the rescuers, but they shared one thing in common: the white and red flag of the Red Lion and Sun Society, the Iranian equivalent of the Red Cross.

The work of unloading was begun immediately, and as each truck was loaded it was driven away in a cloud of desert dust towards the village of Boeen, some 60 miles away. The casualties there had been very heavy, and the supplies were put to use as soon as they arrived. Members of the Red Lion and Sun Society also came out to the aircraft to greet the Canadian Red Cross representatives and to thank the RCAF crew.

Dawn came as the unloading continued, and revealed the huge pall of dust which still hung in the lifeless air over the stricken countryside. A refuelling tender of the National Iranian Oil Company drove up to refuel the *Yukon*. The

lettering on the truck's licence plates and one side of the body was in Arabic, the other side was in English. With the first light a few figures were seen approaching over the vast, desert-like airfield, and as they came nearer they were seen to be an Iranian peasant and his small son leading a donkey. The docile animal was laden with two panniers containing vegetables, and the trio was bound for the market place in Teheran. As they passed the *Yukon* they paused for a few moments to see what was happening, then recommenced their plodding way. For them life had to go on; the daily bread had to be obtained even in the midst of a national disaster.

When the unloading was completed, the few remaining Iranian soldiers, unable to voice their thanks, extended silent handshakes or salutes to the Canadian crew then drove away on the trails made by the other trucks. The RCAF crew readied their aircraft, the engines roared into life, the last farewells were taken, and the *Yukon* began the long journey home, on a round-trip which logged some 14,000 miles and 39 flying hours.

## A TIGER FOR SOME "TIGERS"

THANKS to the generosity of an Indian Maharajah No. 439 (Sabre-toothed Tiger) Squadron, based at Marville, France, finally has its own tiger.

The story begins nearly a year ago, when a group of No. 439's young tigers (in the parlance of the fighter pilot, a "tiger" is a rock-'em, sock-'em, sort of knight-errant in modern dress), came upon a picture story in a magazine. The article dealt with the tiger collection of the Maharajah of Rewar, whose fief is in north-central India.

The story told of His Highness' success in breeding the very rare, pure white albino tiger. Two things seemed evident to the young pilots: first, the Maharajah of Rewar obviously knew a great deal about the big cats; and secondly, far from being the be-whiskered, forbidding oriental potentate one might expect, His Highness looked as though he

might very well turn out to be a sort of "tiger" himself if given half the chance.

On the strength of this, a delegation of the young pilots confronted their squadron commander, W/C J. P. Bell, with the proposal that a letter be sent to the Maharajah, pointing out the difficulties inherent in finding a mascot for a Sabre-toothed Tiger squadron, and asking for assistance or information. The letter was dispatched in November, 1961, but without any real hope. "Just a shot in the dark", according to W/C Bell.

The winter passed without a word. Then, in March, a letter arrived from the palace at Rewar, apologizing for the delay which had been caused by the difficulties of getting an export permit from the Indian government. It went on to say that a nicely-stuffed tiger had departed Bombay recently, and might be expected at Marseilles

within a few weeks. On 18 June "Fang" arrived and the whole station turned out to welcome him with a ceremonial parade.

As may be imagined, No. 439 Sqn. is grateful in the extreme for the Maharajah's gift, and they have responded accordingly. The highest honour that can be bestowed by a group of young "tigers" on an individual is to accept him into the fold, and so the official wheels, which will eventually install His Highness the Maharajah of Rewar as an honorary member of the squadron, are turning.

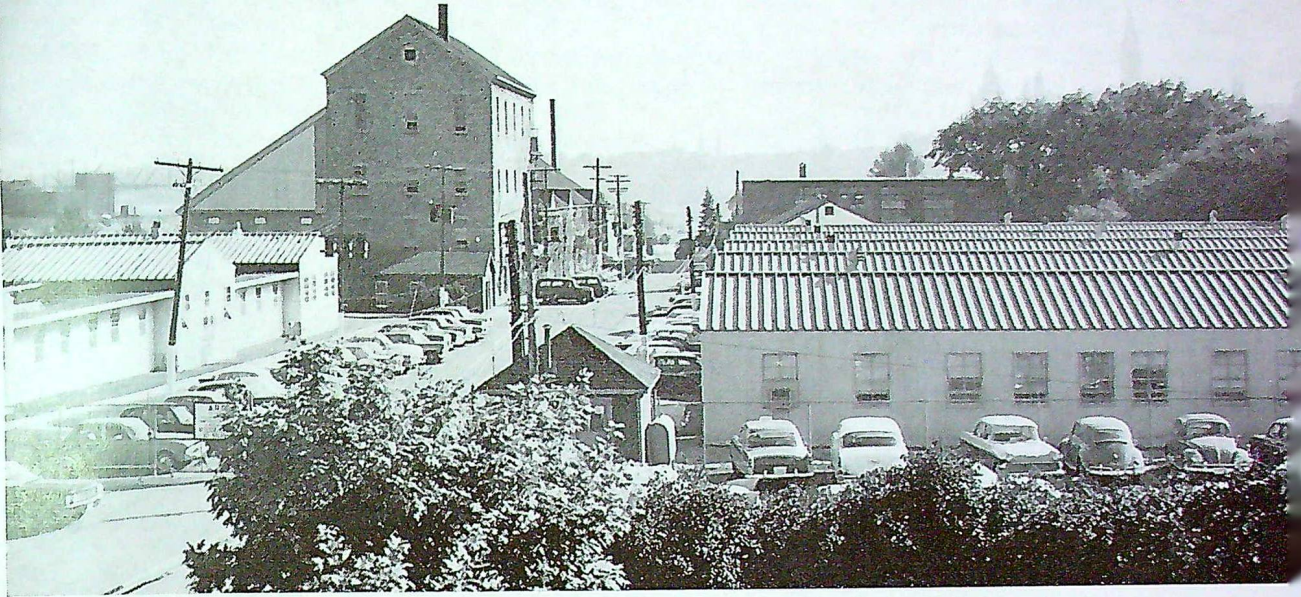
And on the basis of his past performance, the sight of His Highness, crossing the aerodrome from the direction of Rewar, astride a ceremonial elephant, surrounded by retainers, gun bearers and dancing girls, on his way to a No. 439 Sqn. mess dinner, wouldn't surprise the boys a bit. ☉

"Fang" is welcomed to No. 439 Sqn. by LAC Syed Fahim-ul Hag, who was born in the Punjab, and Miss Sue Heinrich, a civilian employee at No. 1 Wing, Marville.



# Stations of the RCAF: VICTORIA ISLAND

By FLIGHT LIEUTENANT E. E. BOYD



Spires of Parliament Hill (right) overshadow Victoria Island in the Ottawa River, location of one of the oldest RCAF installations in Canada.

**W**ITHIN sight of the Parliament Buildings in Ottawa is an area destined to become one of Canada's newest federal parks. This small piece of real estate is rich in local lore and military heritage. It is called Victoria Island.

Situated in the Ottawa River between Ottawa and Hull, Quebec, this 12-acre island has played a major role in the annals of both Canada's history and industrial growth. Victoria Island was an Indian settlement long before the white man discovered Canada. Later the island became a temporary domicile for explorers and soldiers and then a trading post for pioneers who used the Ottawa River for transporting furs.

The main business in the early 1800s was fur trading and the Hud-

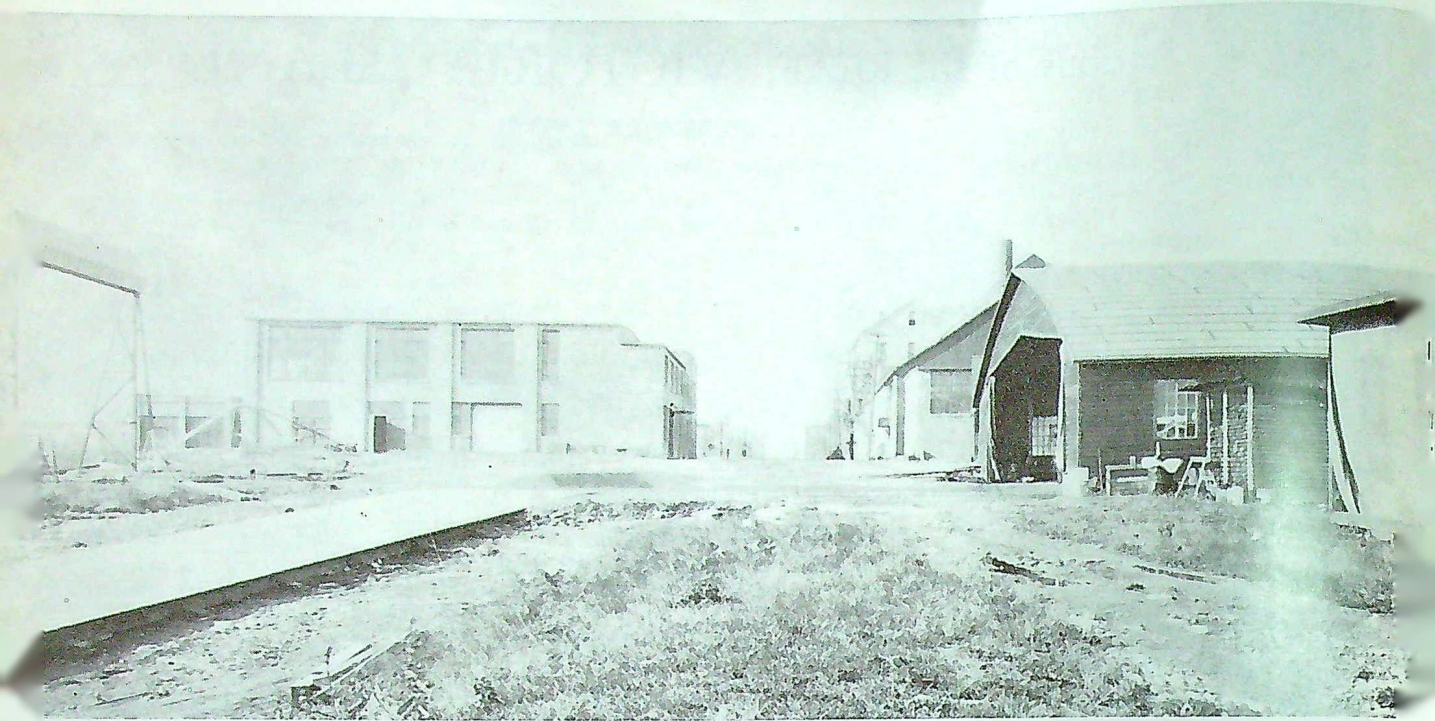
son's Bay Company operated a trading post at the Hull end of what is now known as Booth Street. Booth Street runs from the Ontario side of the river across the Chaudiere Bridge, whose centre support is Victoria Island, to Quebec. Fur traders coming to the area to do business camped in the location which, until recently, housed Ottawa Transportation Commission bus barns and office. The oldest and tallest building on Victoria Island (see photo) was built in 1850 and used as a mica factory, then carbide plant. Today it houses several RCAF offices.

Air force interest in Victoria Island began 40 years ago when the Canadian Air Force established an aircraft repair depot there. At that time, the CAF operated its aircraft

until late each fall, then landed them on the Ottawa River, taxied them to Victoria Island where they were hauled ashore on slipways, repaired and stored for the winter. In the spring the refurbished aircraft were slid down the slipway and flown back to the bases where they were required.

Beginning in 1922 and for succeeding years, planes used on operations in eastern Canada were repaired under this arrangement. It became a semi-annual sight for residents of Canada's capital to gaze down from the heights of Parliament Hill and see aircraft taxiing along the river below.

In 1923 when His Majesty King George V approved the CAF being designated the Royal Canadian Air Force, Rockcliffe and Victoria Is-



These photos were taken from the same spot, 35 years apart. Above, No. 1 Repair Depot in the late 1920s; below, RCAF Victoria Island now constitutes part of spread-out AFHQ complex in Ottawa.



land were the only air stations operating in the Ottawa area. The depot at Victoria Island was comprised of two parts: the main workshops and a supply section. This was the only depot of its kind in the air force. The designation of the depot changed in 1925 to No. 1 Depot; to No. 1 RCAF Depot in 1932; and to No. 1 Aircraft Depot in 1934, but no apparent change was made in the function of the unit.

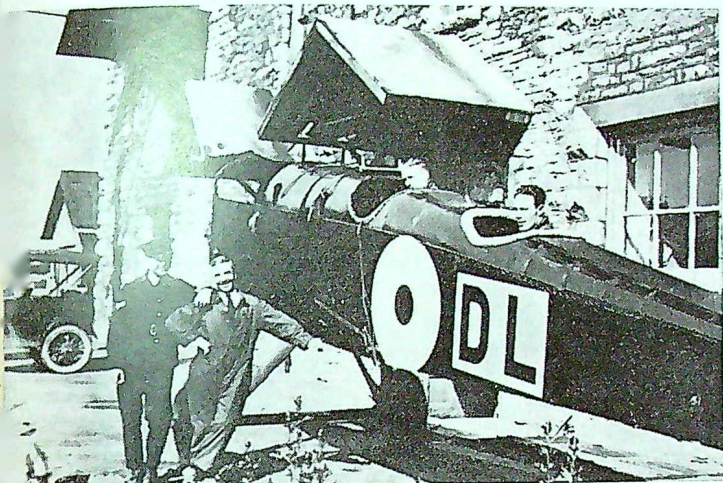
Prior to 1925 Rockcliffe and Victoria Island were under the authori-

for reconditioning *Avro* training aircraft and for the construction of floats and parts. They used the facilities of Victoria Island for conducting many of the tests associated with this work. Aircraft under tests at that time were: *Vickers Vanessa*, *Velos*, *Vigil* and *Vista*. During this period the RCAF accepted five *Vikings*, seven *Vedettes*, three *Varunas* and 12 *Avros*.

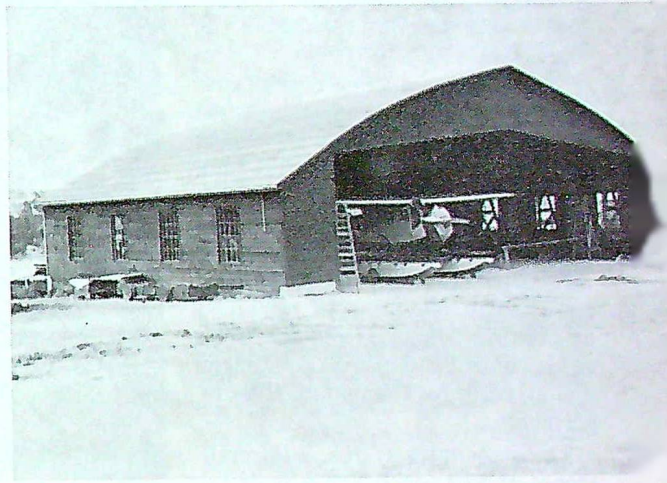
A new hangar was constructed on the north end of the island in 1927, and the following year a new

fitters, riggers, armourers and drill instructors.

The National Defence Hockey League was the major military sports attraction during the mid-1930s and it was a team from No. 1 Aircraft Depot, Victoria Island, which, in 1936, won the first championship for the RCAF. The Victoria Island squad then repeated the performance in the 1937-38 schedule. The calibre of the hockey that was played in the National Defence Hockey League during this period can be illus-



In 1923 this DH9 was brought to Victoria Island for overhaul. Standing beside the aircraft are C.A.F. Cpl. J. Horner and Sgt. W. Stavely. Identity of the man in the front seat is unknown; in the rear seat is LAC R. Shaw.



*Fairchild* undergoes repairs in the hangar which was built on Victoria Island in 1927.

ty of one commanding officer but that year they became separate units and S/L D. C. Hume became CO of the depot at Victoria Island. Other changes also took place. The depot was renovated and enlarged. The old stone building was remodeled for the stores section and a new modern fireproof building was built to house the workshops. A new engine test house and other local improvements were also carried out.

In addition to the aircraft repair work being carried out at Victoria Island in 1927, the Ottawa Car Manufacturing Company had a contract

stores building was built. In 1932 the overall strength of the RCAF Regular Force was 106 officers and 586 airmen, of which three officers and 65 airmen were stationed at Victoria Island.

The work carried out at Victoria Island was varied. For instance, a new type of aircraft skis, developed by the National Research Council, was built in the island's workshops. The depot also assisted the technical training school at Camp Borden in 1936 by providing general training on metal airframes to engineer and armament officers and to airmen

trained by the fact that Harry (Punch) Broadbent, who played with the island team in the late '30s, was recently named to the Hockey Hall of Fame.

As part of a general build-up of Canada's armed forces in 1939 a new wing was added to the stores building and other ancillary improvements were made to prepare for additional commitments. An RCAF recruiting unit was established in the grey stone former mica factory and the combined service and civilian staff on the island expanded to approximately 150 personnel. To maintain

their drill proficiency the airmen of the unit drilled for two hours each afternoon at Station Rockcliffe or proceeded up Wellington Street on route marches. Not all the staff were able to attend these drill periods; indeed, the sheet metal shop was so busy modifying the rear guns on *Delta* aircraft, a night shift had to be commenced to meet their commitments.

His Excellency Lord Tweedsmuir visited the depot during the early part of 1939 and the flying officer who commanded Victoria Island's guard of honour was the present RCAF comptroller, A/V/M I. C. Cornblat.

The large number of aircraft and other equipment coming into the service at the outbreak of World War II created a need for bulk storage and receipt facilities which could not be provided at Victoria Island so No. 1 Aircraft Depot was moved to Toronto. The instrument repair shop and its staff remained at Victoria Island, as did the stock of instrument and camera equipment and all cloth for the manufacture of garments.

The remainder of No. 1 Aircraft Depot at Victoria Island was designated No. 1 Sub-Equipment Depot and its function became the repair of aircraft instruments, clocks, watches, aerial cameras, etc.; procurement, storage and issue of all publications, printed matter, and articles of stationery required by the British Commonwealth Air Training Plan; receipt of specified articles of clothing from the inspection board of the United Kingdom and Canada and distribution to units in accordance with instructions received from AFHQ.

In 1941, W/C M. M. Sisley of the RCAF Provost and Security Service toured Victoria Island and found it suitable for a detention barracks. Construction of the barracks on the second floor of that very versatile grey stone building began in



Air Commodores E. C. Poole, chief of telecommunications, and R. B. Whiting, chief of construction engineering, head two largest AFHQ branches now located on Victoria Island. Home of THE ROUNDLE is the low red brick building in front of century-old stone landmark which now houses RCAF records office, armed forces identification bureau, directorate of statistics and joint services training film bureau.

April and was finished by May.

In answer to a national appeal broadcast over the CBC in January 1942 the sub-depot received over 900 pairs of binoculars. Wing Commander A. E. Annetts (ret.) recalls the binoculars being taken on supply record, being given RCAF serial numbers and all pertinent information regarding each pair complete with donor's name and address being logged into the record. The instruments were then repaired where necessary and issued to depots across the country as required.

A miniature rifle range was constructed in the basement of one of the buildings and in April 1942 revolver and machine gun training was commenced under the instruction of Sgt. Major N. Clark. Because of increased activities at the sub-depot during this time and the transfer of the RCAF publications and forms store to this site, the unit was once again granted depot status in May, becoming No. 17 Equipment Depot. In conjunction with this rise in status a new combined mess and a new issue and receipt

building were constructed on the island.

In addition to the normal receipt, storage and supply function, the depot continued its repair and reclamation shops for various instruments and for boots, shoes and clothing. The depot also arranged for repair of aircraft and vehicle tires and tubes.

On 9 February 1943 W/C L. Mitchell of the RAF assumed command of the depot. He was the only RAF officer ever to command at Victoria Island. With the cessation of hostilities the depot was put on a non-active basis, personnel were released, and in January 1946 No. 17 Equipment Depot was disbanded.

The RCAF was not finished with Victoria Island, however, as the AFHQ detachment of the Service

Police took up residence on the island in September 1945: the RCAF records section, which is still housed in the old grey stone building on the island, moved to these quarters in January 1946 and in 1947 the Canadian Armed Forces Identification Bureau was organized on the island.

As the RCAF expanded during the late '40s to meet peacetime commitments additional units were housed on the island, many of which have since moved to other accommodation.

The island now houses the two largest sub-divisions in Air Force Headquarters: the Construction Engineering sub-division, which moved to the island in 1951, and the Chief of Telecommunications sub-division which completed its move to the island in December 1961. In addition

to these two sub-divisions the island also accommodates: THE ROUNDLE; the Air Historian; the Statistics Directorate; the Assistant for Standardization; the Director of Nuclear Defence; the Director of Training Aids; the Canadian Armed Forces Identification Bureau; the RCAF Record Section; AFHQ supporting admin units; the Joint Services Training Film Bureau.

The transformation of the island into a federal park by the National Capital Commission necessitates the removal of all present occupants sometime in the 1960s. Regardless of future plans for the island, whenever its colourful story is related the four decades of RCAF occupancy will always form an important part of its history.

## TRI-SERVICE MEDICAL TRAINING



Officer cadets in the navy, army and air force during the summer, and university students in the Undergraduate Medical Subsidization Plan the rest of the year, spent a month at the Canadian Forces Medical Service Training Centre, Camp Borden, this year following indoctrination courses in their respective services.

Next summer these undergraduates will take "on the job" clinical training in service medical facilities and the year after that will enter internship. Upon graduation, they will become medical officers in the service of their choice for a minimum of three years. The plan, which allows a maximum of 45 months subsidization, has been in effect since 1959.

Group Captain I. H. Barclay, commandant of the Camp Borden Centre, and Lt. Col. E. K. Fitzgerald (left), chief instructor, here inspect the tri-service group prior to their departure for a week at the Institute of Aviation Medicine and thence back to universities across Canada.

# A DAY WITH A FLIGHT ATTENDANT

**N**EWEST and most exclusive trade for RCAF airwomen is that of flight attendant. As a matter of fact, only 12 girls are so employed on *Yukon* trans-Atlantic and trans-Canada passenger flights originating from RCAF Station Trenton. Their male counterparts are known as stewards.

The airwomen are all volunteers who had to pass rigid personal suitability tests and special courses at Clinton or Trenton before joining the No. 437 Sqn. *Yukon* crews. Their work involves long hours on duty, day or night, partially compensated for by the fact they sometimes have time to go shopping or

1730 hrs: Armed with tools of her trade, June boards the *Yukon*. Less than 12 hours later she will be in Marville, France.



1500 hrs: With an assist from fellow-flight attendant LAW Lois Brown, Cpl. June Malm prepares to go on duty.

sightseeing in France at the Marville end of the trans-Atlantic sked.

Corporal J. E. Malm, model for

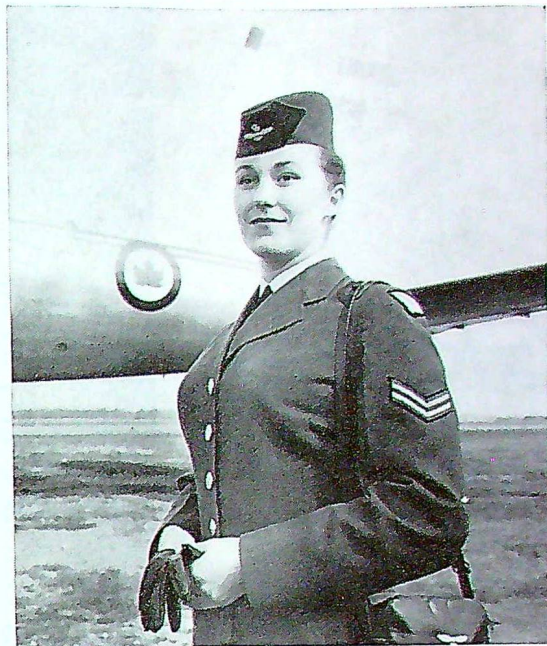
this picture story, has since left the service and is now a policewoman in London, Ont.

1930 hrs: Half an hour after the big transport heads east, June begins the task of serving coffee to 120 passengers.





1530 hrs: Before heading for the Trenton air terminal, June bids goodbye to room-mates LAW Doreen Beauvais, LAW Shirley Pippies, Cpl. Shiela Reece and LAW Lois Brown.



1600 hrs: Three hours before take-off time, June reports on the tarmac along with rest of No. 437 Sqn. crew.

Photostory by CORPORAL W. W. WHITEHEAD

0500 hrs: Now over the Atlantic, June prepares hot meals in one of the Yukon's two galleys. ETA Marville is 1100 hrs. French Standard Time.



1500 hrs: End of the line brings a few hours rest before the west-bound flight begins. And see how June spends part of her time off!



the  
**GREATER**  
**SNOW**  
**GOOSE**

*Centuries before RCAF birdmen ventured there, Canada's uncharted northland was annually invaded by flocks of geese. Undaunted by the hazards of arctic navigation, these magnificent migratory birds instinctively head north in the spring and retrace their flight paths in the fall — their formations as familiar a sight in the October sky as are the compass and radar-equipped mechanized birds which now follow in their wake.*

*This topical article, written by Leonce de Celles of Quebec City, first appeared in THE BLUE BELL, employee magazine of the Bell Telephone Co. of Canada, and is reproduced here courtesy of that publication. Illustration is by RCAF Corporal Peter Fong.*



**T**HE Greater Snow Goose, with a wing spread of four and one-half feet is a picture of power in flight. To see many thousands overhead is a thrill sought again and again by many Quebecers and people from the surrounding territory.

The Snow Geese arrive from the Southern regions at the end of March and stay near Quebec until about May 10 when they take off in orderly formation for the North. Then a greater number of them return in the month of September and remain for a longer period than before.

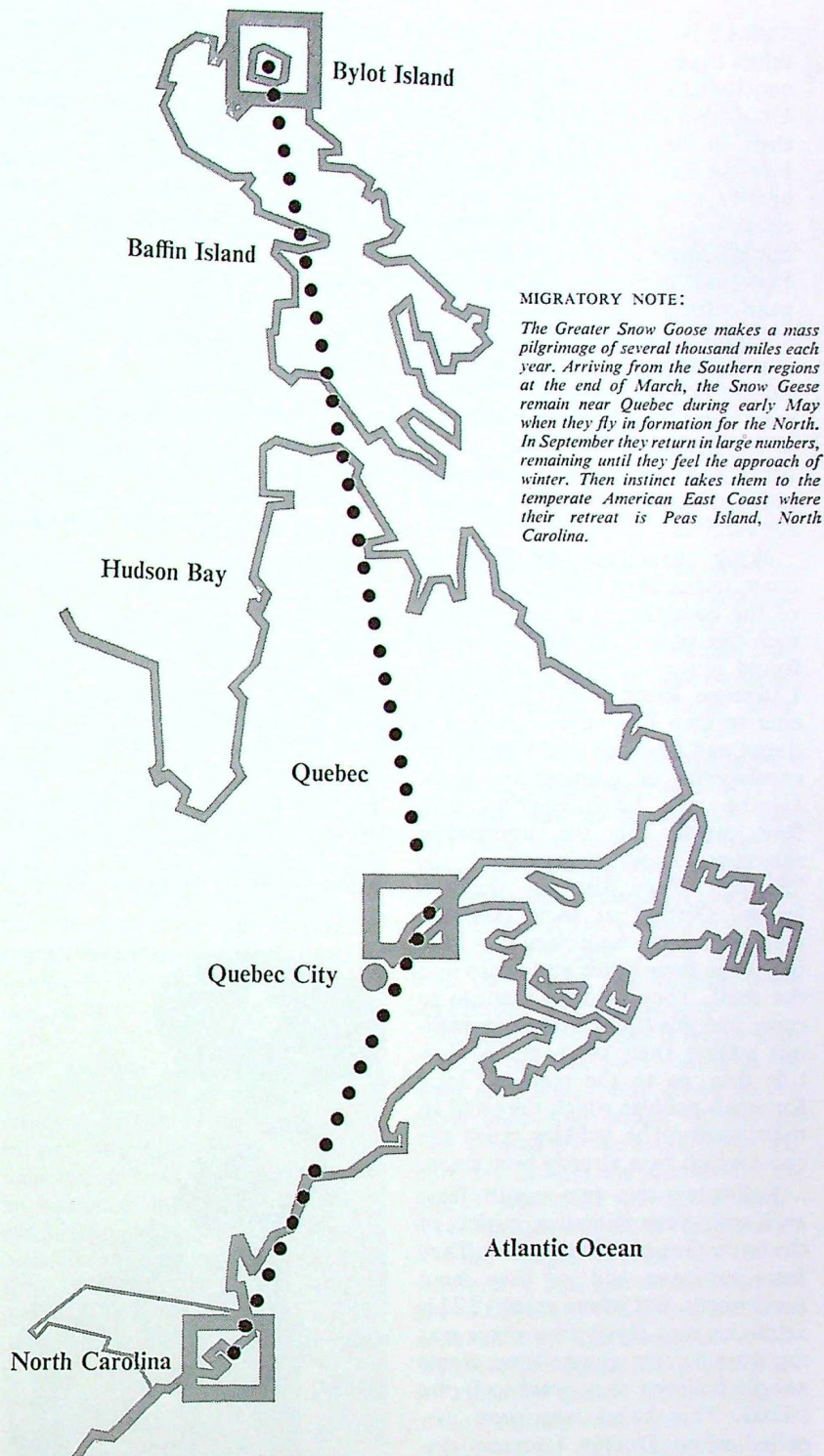
When the geese feel the approach of winter (tell-tale signs such as frost on the river banks which communicate winter's promise of cold weather), they fly to the temperate American East Coast where their retreat is Peas Island, North Carolina, near Cape Hatteras, and leave the cold Canadian weather behind. For many Snow Geese the yearly migration proves fatal. Hunters kill more than 3,000 geese during their fall migratory flight.

Naturalists have been able to follow the migration of the Snow Geese very closely by airplane and by helicopter. With the aid of these transportation media they can observe the geese in any season, even in the most distant places.

Doctor L. Lemieux of the Canadian Fauna Department, who tracked the geese as far as the polar regions, was the first one to find their nesting place.

Many explorers of the 16th Century talked of seeing flocks of countless birds. Jacques Cartier, when he discovered Canada, wrote in his ship's register: "We saw numerous bustards, swans and large Snow Geese."

By 1900, the Snow Geese were almost extinct. Not more than 2,000 birds had come to St. Joachim in the fall. Surprise was followed by alarm. What was causing the decrease in population? Infectious disease, human and animal depredations, star-



**MIGRATORY NOTE:**

*The Greater Snow Goose makes a mass pilgrimage of several thousand miles each year. Arriving from the Southern regions at the end of March, the Snow Geese remain near Quebec during early May when they fly in formation for the North. In September they return in large numbers, remaining until they feel the approach of winter. Then instinct takes them to the temperate American East Coast where their retreat is Peas Island, North Carolina.*

vation? Nobody knew. Action was taken to save the bird. A treaty was concluded between Canada and the United States which prohibits killing them in the United States and forbids the hunting of them anywhere in the spring. These regulations were effective and within a short time the Snow Goose population exploded. Poaching, of course, did not disappear entirely.

Today the number of Snow Geese is staggering. When they came from the north in the fall of 1959 there were more than 80,000 on the shores of the St. Lawrence. However, like other feathered species, their population does not vary in the struggle for survival.

What attracts the geese to the coast rather than to any other part of the continent is an aquatic bulrush-like plant, "Scirpus", which is found along the shores of the St. Lawrence River from Chateau-Richer to Cap Tourmente. Unlike the ducks and bustards which are either carnivorous or granivorous, Snow Geese are herbivorous and feed mostly on the underwater rhizomes, rootlike stems of the "Scirpe". They also eat the soft leaves. Getting at their favourite meal is no easy chore since they have to plunge their heads and necks into the mud. They actually manage to carry out this tricky operation without soiling their plumage. At low tide they go to the reef and look for small pebbles which they add to their menu. The pebbles crush the roots which have already been eaten.

Following this two-month feast each spring, the migration instinct of the Snow Geese reaches a peak. They have to leave and so they head northwards. But where exactly? This attractive and mysterious place was far from known at one time. Some people believed they went to Baffin Island. This belief was soon dispelled when Doctor Lemieux discovered the breeding place of many of them to be Bylot Island, 73 de-

grees north latitude and 80 degrees west longitude. Here, the female lays one egg each day for six days. She then broods them on a rudimentary nest made of down and moss. During the 24 days of the brooding period, her mate, the gander, guards the future family jealously, ready to protect it from any aggression. Geese which have no mate undergo moulting. Even the quill feathers of their wings fall. They then look ugly, ridiculous and cannot fly. Parents moult only after the hatching of the young ones. One would think that not being able to fly would make them easy prey for the Eskimo hunter. Fortunately for the geese, the Eskimos are much more interested in hunting sea-wolves which are quite numerous near the island at that time of year.

Like their elders, the goslings eat the dwarfed, thick vegetation of the "Cassiope," a low, tufted shrub. They eat day and night; night is only two hours long. When all have eaten sufficiently they prepare for the return flight. By early September they reach their fall habitat and are more numerous than when they left in May. When a count was taken in

1956 the figures showed that 28,000 left in May and 80,000 returned in September.

Is Snow-Goose hunting a worthwhile sport? This question has been raised frequently and speculations vary. Although edible, the flesh of the Snow Goose is not very palatable unless special care is taken when preparing and cooking it. The feathers, on the other hand, are often used to stuff pillows.

Snow Geese can be seen in the zoological garden at Charlesbourg, Quebec. A fine illustration of the Snow Goose is presented on the Canadian 15-cent stamp. The artist has reproduced its swift and graceful flight.

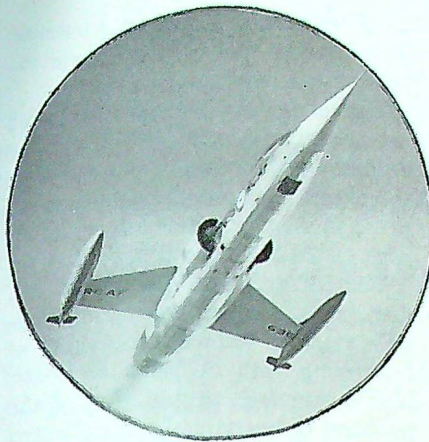
The route of the Canada Goose takes it further inland. During the last week in October and the first two weeks of November it is not uncommon to see 10,000 people make their way to the Jack Miner Bird Sanctuary in Windsor to see the spectacle of thousands of geese feeding.

The silence of the Arctic region calls both species. And, twice a year many of us enjoy the wildlife spectacle of their migration. ☉



THE ROUNDEL would be a pretty drab-looking journal if it weren't for the work of RCAF photographers. Their consistently high level of co-operation is deeply appreciated by the editorial staff.

It is therefore only fitting that we welcome to their ranks the chap pictured on the left. He reportedly covered the air cadet summer camp at RCAF Stn. Vancouver.



## STOP THOSE DECIBELS!



By SERGEANT E. M. CARGILL, Directorate of Public Relations, AFHQ

WITH the possible exception of a desert island or a padded cell, there's no place to escape from noise in the 20th century. From the strident call of the alarm clock to the end of the late-late show, our days and nights are filled with it.

Noise is an unavoidable by-product of modern life which we must accept, tolerate and, where possible, control. Of all the sounds which have come to annoy mankind in recent times, perhaps the most disturbing have been in the field of transportation.

Scarcely had the clatter of horses' hooves and rattle of iron-shod wheels given way to the roar of the automobile engine and the scream of the train whistle, when the aeroplane arrived on the scene. Then, after we had learned to accept the sound of piston aircraft engines, the jet burst upon us, with its unearthly whine, and finally, the sonic boom.

The RCAF is very much concerned with the problem of noise abatement. In common with other agencies in the field of aeronautics, the RCAF has found that the definition of noise depends largely on one's point of view. If dirt can be called "matter in the wrong place," then noise is "sound in the wrong

place." What is a pleasant sound to one man is a noise to another; what is acceptable at one location is protested elsewhere, and the same person may find a certain sound tolerable today, and intolerable tomorrow, depending on his state of mind.

With these facts in mind, the RCAF has for some time been planning its approach to the problem created with the coming into service of supersonic aircraft, the CF-104 and CF-101B. To guide them, engineers are fortunate in having the experience of commercial airlines and other allied air forces to draw upon.

In exchange for the benefits of technical progress, modern man tolerates a degree of noise unknown to previous generations. Also, the demands of military security must be balanced against the possibility of further noise nuisance. But in most cases, the nuisance to civilians turns out to be much less than was feared.

In dealing with aircraft noises and their effect on the public, the RCAF has to consider three main sources: take-off and landings, engine testing and run-up, and the sonic boom.

The first problem is becoming more acute in some areas owing to

the expansion of cities near airfields, and the need for longer runways. Inconvenience is minimized where possible by directing landings and take-offs away from populated areas, and by making early turns after take-off.

Thorough and regular engine testing, a very necessary part of performance and safety checks, can also cause annoyance. This can be decreased, however, by carrying out these activities during daylight hours and in special test areas away from the inhabited side of an airfield, with the use of baffles and noise suppressors where necessary.

Though less frequently heard than the first two, the sonic boom is the most spectacular, and could be the most disturbing sound of the jet age. Caused by the build-up of air particles around an aircraft travelling at supersonic speed, the shock-wave spreads out from the plane in a cone shape, causing the boom wherever it hits the earth. Since the ground effect of the boom increases as the altitude decreases, RCAF aircraft are prohibited from flying supersonically below 30,000 feet, or at any altitude near cities.

Despite all these precautions, it is obvious that the air force cannot do its job in complete silence. Air-

craft noise is here to stay; at times it will be severe, and inevitably, people will complain. Where noise abatement measures must leave off, the second part of the program — education — takes over.

Sound often behaves in peculiar ways. Acoustics engineers, like most specialists, have their own language of technical terms to aid them in studying and describing these peculiarities. Sound pressure levels, decibels, octave bands and divergencies — the words mean little to most laymen, but all have a vital effect on the amount of noise that hits the eardrums.

Predicting the way sound will travel is at least as complicated as predicting the weather. Wind, temperature, turbulence, humidity can all interfere with the path of sound waves, and the noise in any given area will vary sharply because of these variables.

The decibel, a unit of measurement of sound, is derived from a logarithmic ratio of two sound intensities — one measured and the other a standard reference. When two 100-decibel sounds are added together they produce, fortunately, not 200 decibels but only 103. The ear can distinguish little, if any, difference.

Then, too, the psychological at-

titude of the hearer is important. If you live in an apartment, and are awakened by the baby next door, chances are, if you are a reasonable person, that you will mutter, "The Jones' are having trouble with their kid again," then turn over and go to sleep. If, on the other hand, the Jones' are throwing a noisy party, or playing rock-and-roll music at 2 a.m., you may well become furious, and toss and turn sleeplessly for hours.

The reason? In the one case, you know and accept the fact that the disturbance cannot be helped; in the other, you feel that the neighbours are being selfish and inconsiderate. The level of annoyance, therefore, depends not so much on the volume of noise as one's attitude toward its originator.

So it is with the public reaction to jet-age sounds, and the agencies responsible, military and civil, must see to it that people understand why the jets are here, and realize that everything is being done to eliminate unnecessary noise.

According to findings published by the USA's National Aircraft Noise Abatement Council (NANAC), some of the main reasons given for aircraft noise complaints are loss of sleep, interference with relaxation and disruption of

TV programs. It is known, however, that a major factor (not always expressed in complaints) is fear.

The high, shrill whine of a jet passing overhead, followed by the buffeting of its exhaust, can produce a feeling of apprehension, even of panic, in many people. Only a knowledge of the facts can allay this fear.

The RCAF's anti-noise program, then, must include taking all possible steps to reduce noise short of interfering with operational needs, plus a thorough explanation of the problem to everyone in the affected areas. To maintain the strength to fulfil its many commitments in NATO, NORAD, the UN and its domestic roles, the RCAF has to maintain its men and machines in constant readiness — and this cannot be done without practice and testing.

With increasing acceptance of the jets, complaints will become less, but station commanders can probably never hope for a situation like that at a commercial airport on Hawaii. As reported to the NANAC, inhabitants of the towns of Kahului and Wailuku frequently complain to the airport because the big jets don't pass close enough to their towns, depriving them of the pleasure of seeing them. ☉

## HIGHWAY SAFETY AWARD TO MARITIME AIR COMMAND



Maritime Air Command has won the Pearkes Trophy for having attained the lowest accident record of 19 tri-service formations during 1961.

The trophy was first presented in 1957 by the Automotive Transport Association of Ontario in appreciation for the contribution made by the Armed Services towards highway accident prevention through their participation in the National Truck Rodeo 1948-1957. It was subsequently named the Pearkes Trophy and put up for annual competition. The trophy was won by RCAF Air Transport Command in 1958, the Canadian Army's 4th Infantry Brigade Europe in 1959 and the Canadian Army's Eastern Command in 1960.

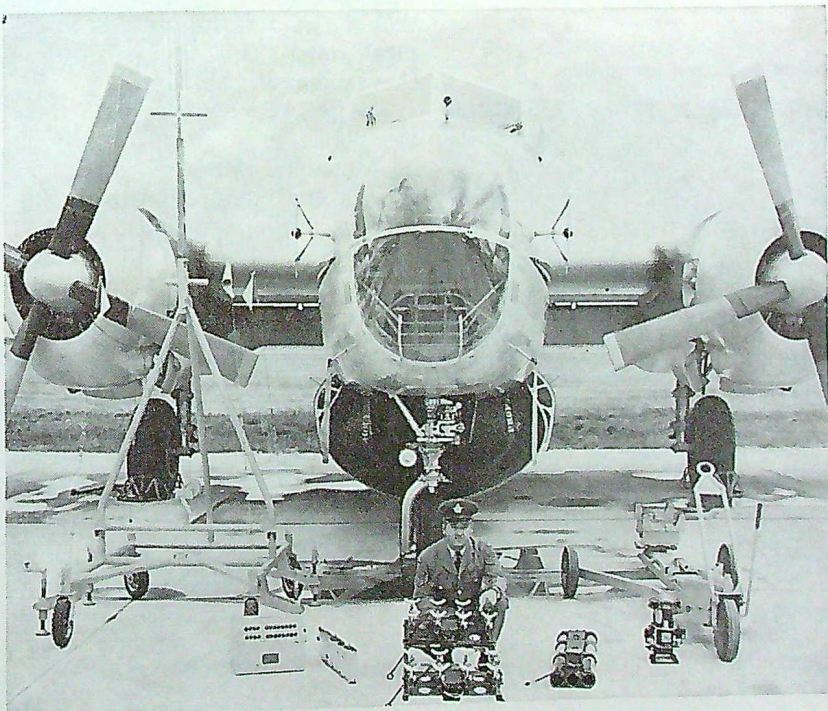
A/C W. W. Bean, deputy AMTS at AFHQ, presents Pearkes Trophy to A/C W. I. Clements, AOC of MAC.

## The Suggestion Box

THE following individuals have received awards from the Suggestion Award Committee, Department of National Defence, for suggestions which have been officially adopted by the RCAF. Proper procedure for submitting suggestions is detailed in AFAO 99.00/01.

WO2 W. F. C. Walsh	Sgt. F. R. Lund	Cpl. F. J. Birch
WO2 R. A. Griffin	Sgt. C. Patafie	Cpl. J. C. Hatton
WO2 F. J. Sagriff	Sgt. C. Zimmer	Cpl. J. S. Mohler
FS W. A. Binnie	Sgt. J. M. Findlay	Cpl. C. A. Pearson
FS A. R. Baker	Sgt. J. F. Bourdon	LAC F. Dean
FS N. Palahicoy	Cpl. F. Gartelmann	LAC A. R. Tyrell
Sgt. R. C. Broderick	Cpl. W. W. Kearns	LAC C. W. Johnston
Sgt. L. A. Bodnar	Cpl. E. H. Bieker	Mr. R. A. Spencer
Sgt. W. A. Price	Cpl. D. D. Cail	Mr. R. A. Green

RCAF munitions and weapons technician Sgt. R. C. Broderick poses in front of a *Neptune* patrol bomber with his impressive array of redesigned and modified aircraft armament equipment. His suggestions have earned Sgt. Broderick six commendations from the Chief of the Air Staff, and close to \$500 from the National Defence Suggestion Awards Committee.




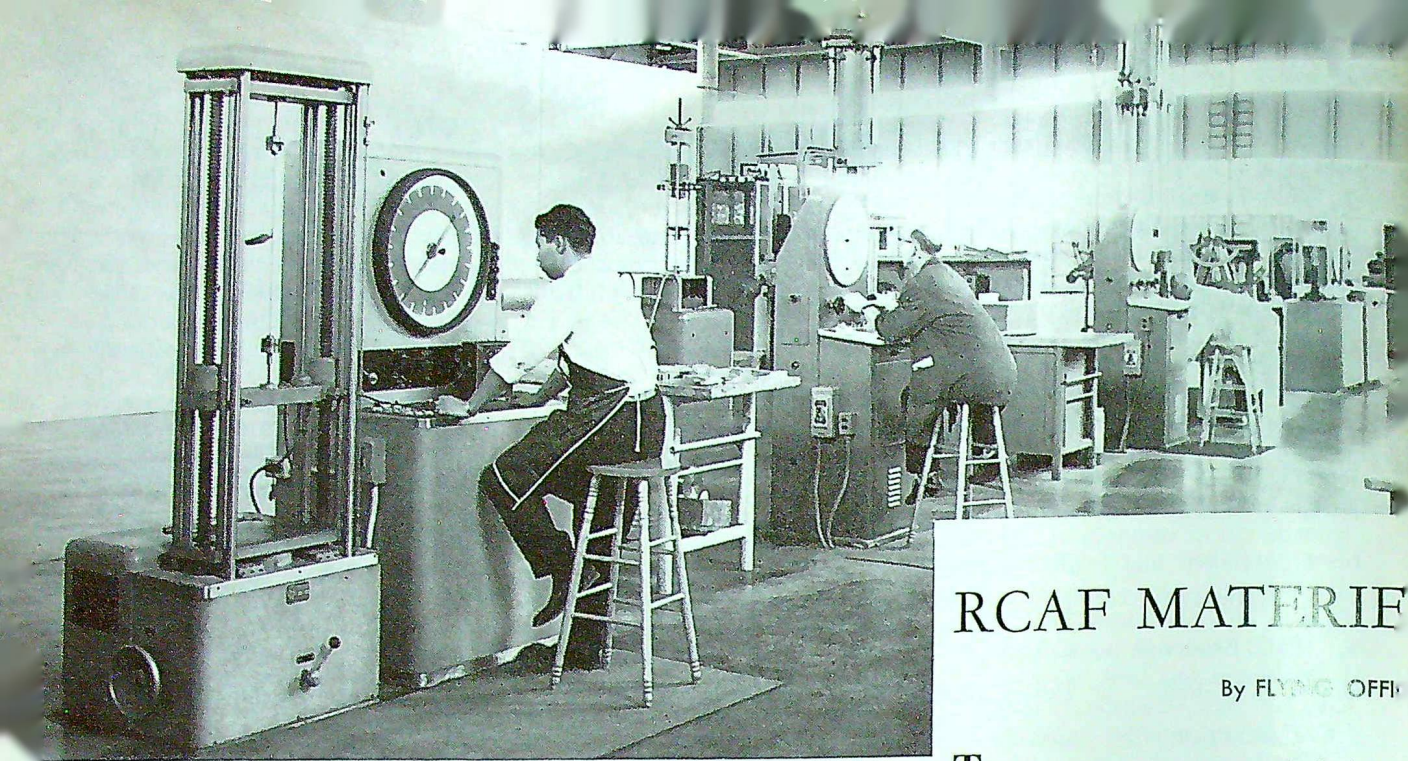
## TWO ADDITIONS TO AVIATION MUSEUM

LATEST additions to the growing number of old aircraft in the National Aviation Museum are a Junkers W-34 and a de Havilland DH-60 *Cirrus Moth*.

The Junkers W-34, lone survivor of a large fleet once operated by Canadian Airways Ltd., was donated to the museum by Mrs. J. A. Richardson of Winnipeg, widow of a prominent western grain merchant noted for his contribution to the development of flying in northern Canada over 30 year ago. The aircraft, a low-wing monoplane of corrugated aluminum construction, was flown from Vancouver to Ottawa last month.

A de Havilland DH-60 *Cirrus Moth*, forerunner of the *Tiger Moth* so familiar to many airmen who trained in the RCAF early in World War II, has been presented to the National Aviation Museum by Mr. C. F. Burke, Managing Director of Maritime Central Airways, Charlottetown. The DH-60 will be restored and placed on display at the National Aviation Museum in Ottawa.

The *Cirrus Moth*, designed by Geoffrey de Havilland, was first flown in February 1925 and was an immediate success. It met the demand for a light plane that was economical to operate, suitable for private owners and flying clubs. The first *Cirrus Moth* arrived in Canada in the summer of 1927 and was placed in service with the Ontario Provincial Air Service. Others followed and the DH-60 became the mainstay of the Canadian flying club movement which was founded in 1927. Later it was adopted as an elementary training plane by the RCAF to replace its World War I Avro 504Ks. 



A view of the laboratory's general mechanical testing facility.

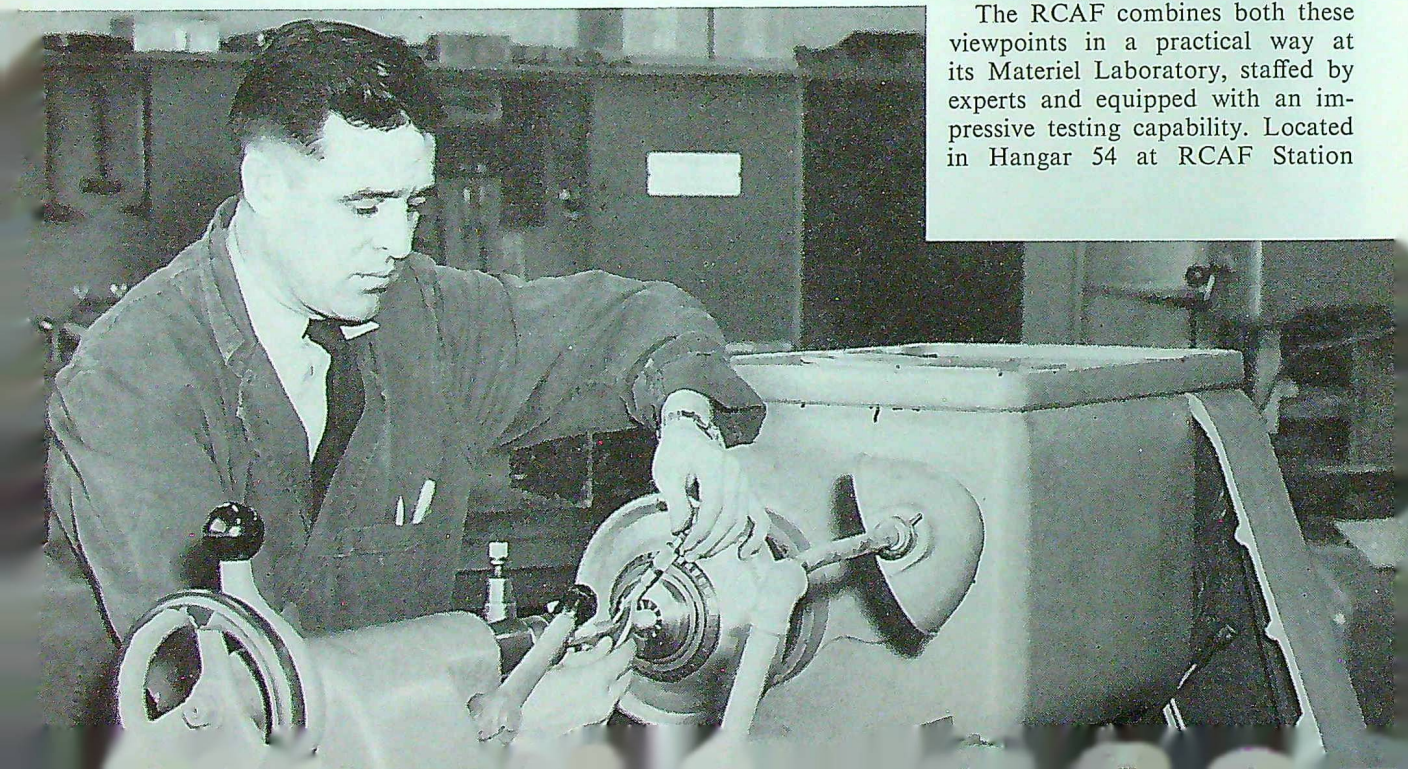
## RCAF MATERIEL

By FLYING OFFICER

Two booths at a recent technical exhibition beckoned visitors with diametrically opposing slogans. The first, that of a group of consultants, bore a sign reading "One expert opinion is worth a thousand tests." The message on the second booth, that of a manufacturer of test equipment, read "One test is worth a thousand expert opinions."

The RCAF combines both these viewpoints in a practical way at its Materiel Laboratory, staffed by experts and equipped with an impressive testing capability. Located in Hangar 54 at RCAF Station

LAC J. R. Samure sets up a tensile specimen for testing.





# LABORATORY

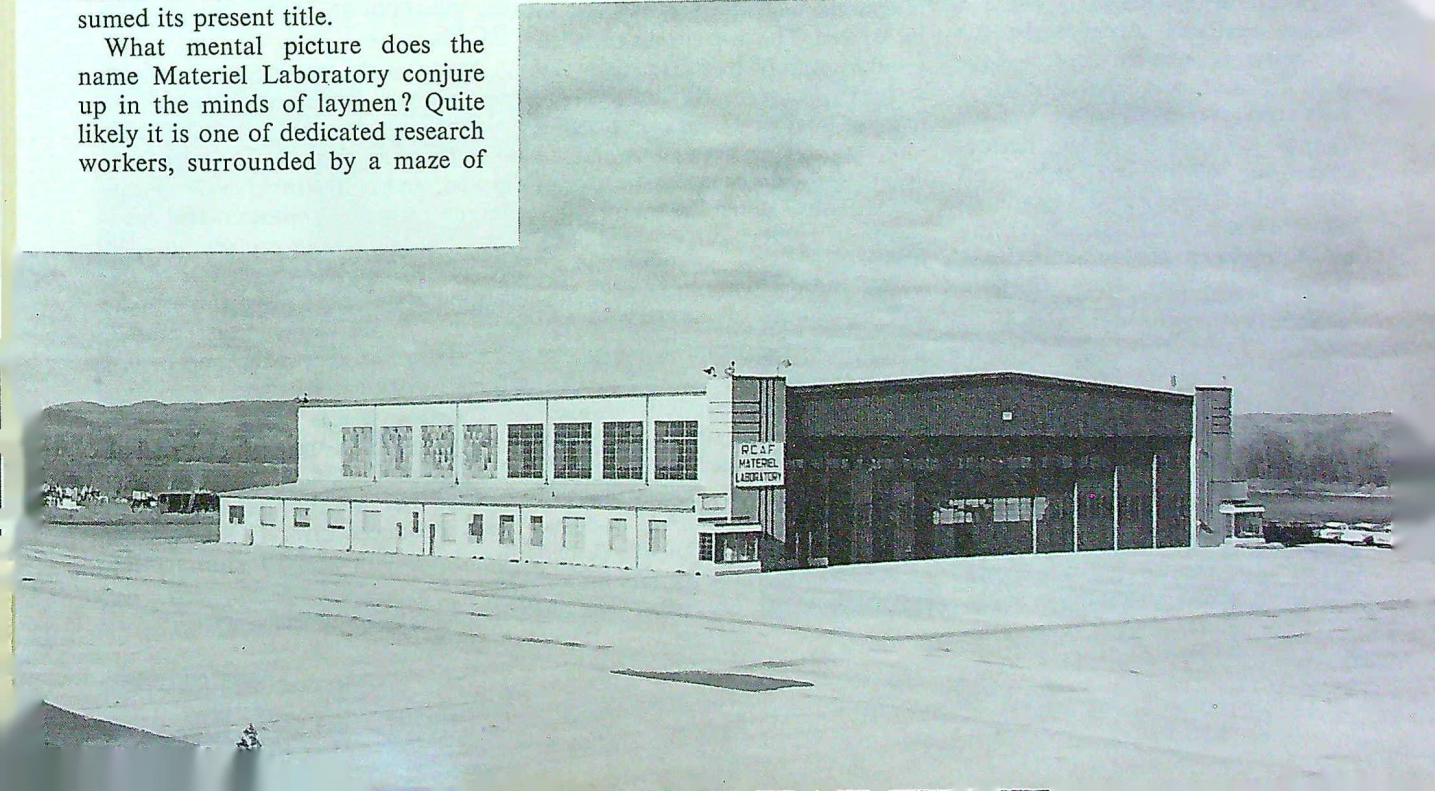
D. W. RUMBOLD

Rockcliffe, this Air Materiel Command unit has been known by various names since its creation as the Aircraft Inspection Directorate "Test House" in 1928. Originally housed at RCAF Victoria Island, it became a separate AMC unit with its own commanding officer in 1954. When the Quality Control Laboratory moved to Rockcliffe in 1960 it assumed its present title.

What mental picture does the name Materiel Laboratory conjure up in the minds of laymen? Quite likely it is one of dedicated research workers, surrounded by a maze of

Sgt. R. Blanchard, NCO in charge of the orderly room, despatches a test report on a project.

The RCAF Materiel Laboratory is located at RCAF Station Rockcliffe.

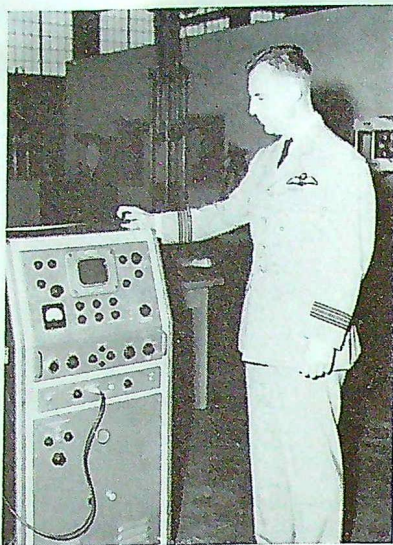


test tubes, retorts and bunsen burners, excitedly developing a new material for the nose cone of a rocket. This, however, is not a true image of the work that goes on. Dedicated scientists, yes; research, no. Test tubes and various other well-known items of equipment — yes, the laboratory does possess and use a few of these; excitement — sometimes; development of new materials — no.

What, then, actually goes on? To maintain the quality control and flight safety program of the RCAF, this unit works as part of an essential team with various formations of AMCHQ and AFHQ. By providing a laboratory service, two broad aims are achieved; the quality of equipment bought or manufactured for the RCAF is determined and any failures that occur are analyzed for cause and remedial action. To illustrate, here are some typical projects that have involved the laboratory over the past few years.

In the production of such vital “airworthiness” items as control cables, constant vigilance must be maintained to achieve reliability, as a failure would probably cause a serious accident. Accordingly, the principles of quality control have been applied and the laboratory now runs over 500 routine tests of swaged cables every year. Besides trying to pull the end-fittings off these cables, microscopic examinations of sectioned assemblies are made to detect the smallest flaws. Welded components are of great interest and examinations of machine-produced welds are made in the laboratory. Over 250 civilian welders engaged in production for the RCAF are checked out each year.

Consider such mundane items as anodizing or cadmium plating. The T-33 aircraft which broke an undercarriage and the CF-100 which had a brake failure dramatically brought



S/L J. H. Thomson, the unit's commanding officer, stands beside a reflectoscope used for viewing radiographs.

home the old adage “for want of a nail . . . , etc.”, when it was determined that these write-offs could be directly attributed to faulty protective coatings. When these processes did not provide proper protection or, even worse, caused serious failures, some method of control had to be exerted. The first checks revealed a failure rate of over 60 percent! A system of approved firms, which features regular testing of selected samples, has now been set up and the failure rate has been drastically reduced. The Materiel Laboratory also assists in regular surveys and tests to determine the suitability of all contractors' laboratories which supply information on industrial quality control of airworthiness items for the RCAF.

These brief descriptions of some of the “routine” test programs, which have been developed in conjunction with the quality control organization at AMCHQ, will give the reader some idea of the “bread and butter” work of the laboratory. However, there are other equally

important aspects of its work which consume just as much, if not more, time and attention.

These are “non-routine” projects, carried out by the Metallurgical, Chemistry, General Test, Metrology, Instrument and Electrical and Environmental Testing Sections. These projects usually arise out of UCRs\*, crashes, failures or other queries. Their number rose steadily from 160 in 1958 to 310 in 1961. This does not mean that more failures are occurring, but rather that safety-conscious RCAF personnel are becoming more aware of the services that can be provided by their own laboratory.

It also means that a central co-ordinating agency has been set up to monitor all testing of airworthiness items that is being performed for the RCAF by other agencies, such as the National Research Council, Inspection Services, Department of Mines and Technical Surveys, National Aeronautical Establishment (and even, occasionally, the RCMP Crime Laboratory). Because of its location in Ottawa, the Materiel Laboratory is ideally situated to have access to all of these agencies, thus making the top technical brains in the country available to the RCAF.

Many of the non-routine projects result from letters containing the typical request, “Why did it fail?”. The types of components tested are legion, and hence involve many different testing techniques. Most samples for these tests are unique — if ruined by careless extraction of the test piece or inaccurate test methods, the test cannot be made or repeated. Thus extreme care is the watchword for all work carried out.

Other projects arise from the query, “Is this component fit for the RCAF to buy?”. It is worthwhile here to mention the Canadian Qualified Products List (CQPL). Most items used in aircraft construction

\*Unsatisfactory condition reports.

or maintenance are made to a specification which, in many cases, calls for testing to determine whether the item meets the conditions laid down. This testing is carried out by or for the RCAF Materiel Laboratory. Products that pass the "qualification tests" are listed on the CQPL, which is maintained and administered by the laboratory. Thus, when re-provisioning, consultation of the CQPL provides a ready means for AMCHQ, to identify acceptable products. Only those items for which the RCAF has a foreseeable future need are "qualified".

The third typical question reads, "Is this component fit to use?". For instance, large stocks of items assigned a "short life" may later become "time expired". By scientific tests, the laboratory may prove that these items can still be used (with perhaps some limitations), thus saving a lot of money. A fourth type of project covers the calibration of test equipment used at other RCAF formations. Under this heading falls the calibration of all aircraft weigh-

ing scales and thermocouple test kits used by the RCAF — an operation which saves many thousands of dollars annually.

Many tire failures are now automatically referred to the laboratory for examination, past experiences having shown that field assessments are sometimes wrong. To set the minds of aircrew personnel at rest, it is perhaps opportune to point out that this system works both ways — "pilot error" induced tire failures being sometimes re-assessed by the laboratory as "material failure" or "binding brakes". (Incidentally, aircraft tires retreaded by approved agencies under quality controlled methods have proven equal to or better than new ones.)

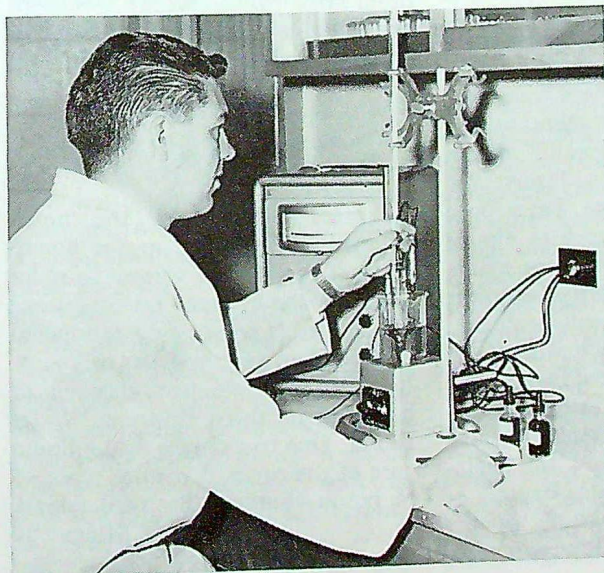
Some years ago it was decided that *Harvard* wing ribs should be "beefed-up". Cost of the contract was estimated at two million dollars. Investigation by the Materiel Laboratory revealed that the fault lay in the small brackets which held the ribs in position. An inexpensive special inspection was proposed by

the laboratory, enabling early detection of incipient failures. Thus a costly re-work scheme was avoided and the *Harvard* continues in service.

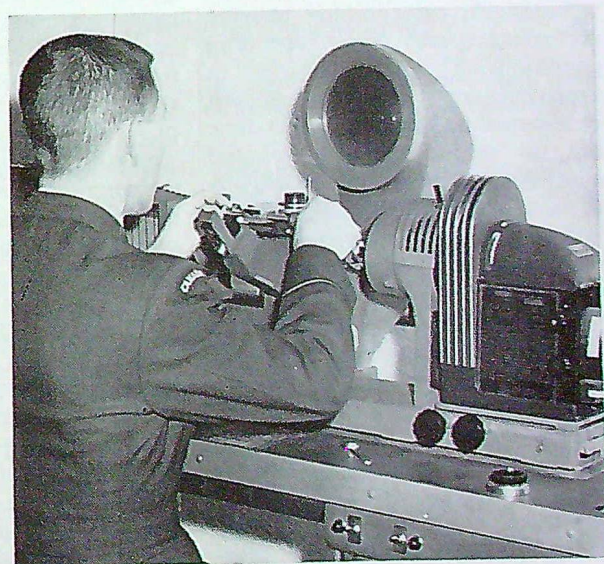
A CF-100 aircraft recently ran off the runway on landing, suffering major damage. The pilot's story of a misted-up windshield was regarded with some scepticism and the windshield was sent to the laboratory for examination. Under simulated conditions identical to those encountered by the pilot during his "let-down", it was found that the windshield de-mister became inoperative, thus proving the pilot's story. Again, the investigation did not end there, but was continued until the cause of the failure was established and remedial action recommended by a minor modification.

Recently several oil pumps were covered with an unusual red deposit. As these pumps did not use red oil, they were investigated for suspected oil contamination. Luckily, the laboratory was able to prove that all was well. The red deposits came from the dyes used in making col-

A technician carries out a plating solution potentiometric analysis.



One of the unit's officers prepares a specimen for a metallographic test.



oured smoke for flying displays — these pumps had previously been used in a smoke generating system.

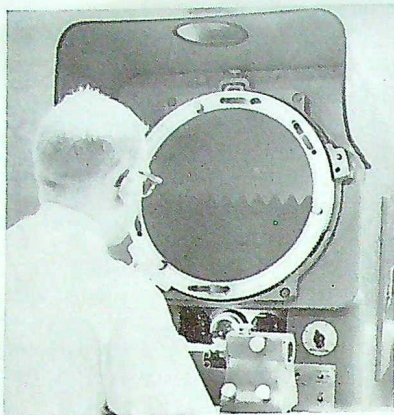
An adjustment screw sometimes worked loose in flight on certain jet engine fuel pumps, resulting in uncontrollably high engine thrust with the throttle closed. Tightening all these screws in the field, without disturbing their delicate setting, was felt to be impractical and an expensive overhaul scheme was feared. However, working on a proposal by the AMCHQ engine specialists, the laboratory developed a simple torque test that was applied in the field on the next periodic inspection. The faulty pumps were soon ferreted out at minor expense.

As aircraft speeds increase and systems become more complex, accident investigation becomes more involved. Unfortunately, evidence reaching the laboratory is often just a pile of twisted wreckage and dirt in a packing case. Yet much has been told from painstaking examination of such "junk", as the most minute tell-tale marks and scratches may provide the clue to the cause of the accident.

The new types of jet aircraft entering RCAF service bring with them new materials and new design techniques to cater to their amazing performance and severe operating conditions. The laboratory has to keep well abreast of all these modern developments. Not only is this done but, in several cases, substantial contributions have been made by this unit to the advance of technical knowledge and the improvement of new RCAF aircraft before they even enter service.

Not all the work done in the laboratory is quite so interesting as the above examples; in fact, a very simplified picture has been given of the meticulous and exhaustive probing that is required (sometimes to no avail) in order to produce the final result.

"Will these seat belts prove satis-



Titration of an electro-plating solution analysis.

factory?" "Can these tires withstand the tremendous strain imposed by the CF-104?" "Why did these wheels develop cracks?" "Is there a method of detecting fatigue in this part?" "Was the pilot at the controls when this aircraft crashed?" "Can we use these rubber seals that have been in storage for eight years?" "What caused this fire?" "Can we repair this part by welding?" "What is the nature of the contaminant in this fuel?" "Why did this jet engine turbine blade fail?" "Is this group of bolts interchangeable with that group?" "Will this paint remover cause corrosion?" "Can this new navigation aid perform satisfactorily under all anticipated service conditions?" "Does this heat treatment process sufficiently increase the strength of this material?" From the commonplace to the bizarre, the list of questions that have been posed to the laboratory is almost limitless. Yet time and time again, effective answers are provided to the most varied and difficult problems.

In supporting the activities of the testing sections, the need for extreme care and accuracy in the workshop, rapid processing of samples through the supply section and the maintenance of up-to-date copies of thousands of specifications by the orderly room make unique and inter-

esting assignments for those airmen engaged in these tasks.

One other very important facet of the laboratory which has not been mentioned so far is the training section. Here courses are given to all RCAF inspectors (both service and civilian) engaged in quality control activities at technical service units and detachments. Over 100 students are trained every year on ab-initio and senior inspectors' courses, and on various specialist courses such as non-destructive testing, radiography and heat treatment.

Half the 30-member staff of the Materiel Laboratory is made up of civilian personnel, thus making a reservoir of technical specialists always available to the RCAF. These experts are often called upon in their professional capacity to represent Canada or the RCAF on various committees, both here and overseas, besides attending regular meetings of other committees to draw up specifications and test programs.

Less than one twentieth of one percent of the air force's total personnel are engaged in providing laboratory services. In the aircraft industry, this percentage is usually four times as large. The contribution of the Materiel Laboratory's "back room boys" to the RCAF's efficient operation certainly cannot be measured by mere numerical strength. ☉

#### ON THE MOVE

Present location of the north magnetic pole, which moves northward at the rate of some five miles a year, is one of many investigations of the earth's crust being conducted by Canadian geophysicists this year. In 1950 the pole was checked as being on northern Prince of Wales Island. Due to changes in the liquid core of the earth, it is now expected to be on southern Bathurst Island.

— Dept. of Mines and Technical Surveys.

# BIG EYE IN THE SKY

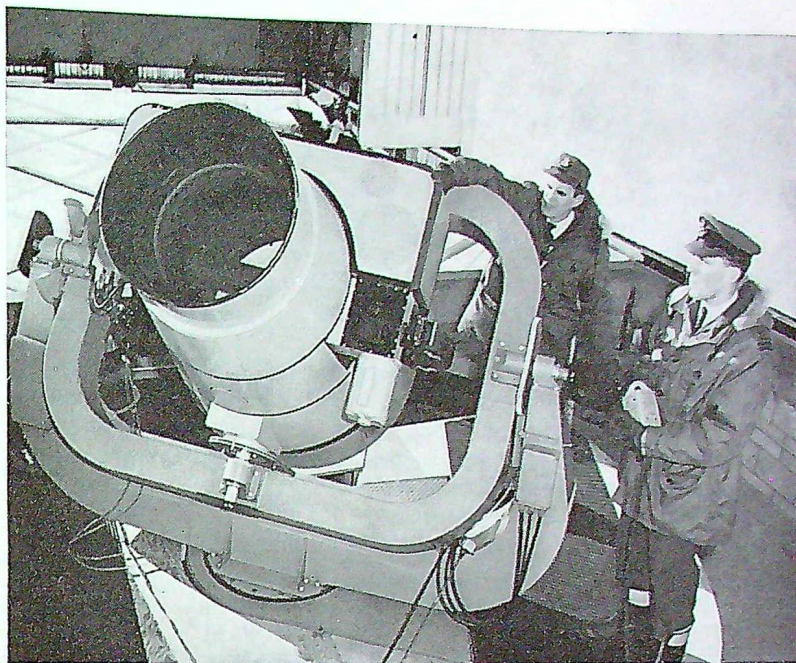
As part of Canada's contribution to the world's space exploration program, a Baker-Nunn Satellite Tracking Camera has been installed at the RCAF's Primrose Lake Evaluation Range, located some 25 miles from Cold Lake in northwestern Alberta. The camera, originally on loan from the United States government, has now been handed over to and is maintained and manned by the RCAF.

The Primrose Lake camera is one of a number of such instruments strategically located around the globe by the Smithsonian Institute's Space Tracking Program, under a contract from NASA. Others are in Argentina, Australia, California, Curacao, Florida, Hawaii, India, Japan, New Mexico, Norway, Peru, South Africa and Spain.

The three-ton camera, costing about \$120,000, is supported by a special mount which allows adjustment in three planes. It is housed in a specially-constructed building, the walls and roof of which slide back on tracks to expose the camera for use.

Its Schmidt optical system, with a focal length of 20 inches, is valued at \$30,000 and employs spherical mirrors, rather than the parabolic type used in most optical systems. These mirrors, the largest of which is 32 inches in diameter, are so sensitive that they cannot be touched and they are, therefore, cleaned by means of a low-pressure vacuum.

When in operation the camera is electronically controlled and is capable of taking pictures as rapidly as one per second or as slowly as one every 32 seconds, with an exposure range of .2 to 2.3 seconds. The specially-prepared, fast (ASA 600), non-perforated 55 mm film



Officers at the RCAF Evaluation Range, Primrose Lake, Alta., prepare the Baker-Nunn satellite tracking camera for a night's operations.

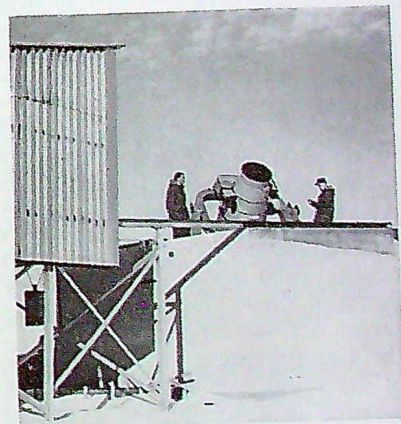
comes in 1,000-ft. rolls and gives a picture measuring approximately 12 x 2 inches.

Designed for tracking satellites as part of the first geophysical year program, 1957-1958, the Baker-Nunn cameras were remarkably successful and the information provided from these tracking operations has provided a basis on which to define satellite orbits. Satellites and their orbits have contributed a wealth of data which has served as a basis for making new scientific discoveries concerning the earth, its atmosphere, and outer space.

The cameras are accurate to within a tolerance of .06 of a degree of an arc, and their system of time presentation is readable to one thousandth of a second. Their ability to detect faintly visible objects in space is measured by scientists in terms of visible magnitude (VM). While the unaided eye can see an object with VM of 5, the cameras are good to VM 14, and are thus able to detect a much fainter object in space.

Photographs from each of the 14-globe-encircling cameras are sent to the Smithsonian Institute's Astrophysical Laboratory, where they are interpreted. The information obtained is disseminated by NASA's Goddard Space Flight Agency and contributes greatly to man's knowledge of the universe. ☉

The corrugated metal cover, left, slides on tracks and protects the camera when not in use.





# ROYAL CANADIAN AIR CADETS

*This section of THE ROUNDDEL is prepared by  
Air Cadet League Headquarters,  
424 Metcalfe Street, Ottawa 4, Ontario.*

ONE of the most prominent features of the air cadet organization in Canada in recent years has been the steady expansion of the movement, not only in numbers but in the scope of its activities and programs. The trend has been particularly noticeable during the summer months; each year has brought increases in the number of cadets taking specialist training courses, accompanied by a corresponding upgrading in the scope and calibre of the training being given.

During the summer of 1962 a record-breaking number of over 7,400 cadets attended camps, training courses, and specialized activities of one kind or another. Reports received at Air Cadet League Headquarters indicate that, not only were the numbers greater than in any previous year, but the standard of performance on the part of the cadets was extremely high. This, of course, reflects favourably upon the quality of the training being given at squadrons throughout the year, upon the procedures being used to select cadets for summer assignments, and upon the excellent facilities provided by the RCAF to make possible such an extensive summer program.

It might perhaps be appropriate to quote from an address made a few months ago by League President Arthur Smith before a large audience of aviation-minded people in Vancouver. After describing the various facets of the air cadet training program, Mr. Smith said: "If we of the League speak with enthusiasm in describing our activities, we will perhaps be forgiven; for it is our

belief that no other youth organization in the world offers so much to its young men, either in terms of opportunity, in training or in supervision".

Good examples of the opportunities referred to by Mr. Smith are the various summer projects for air cadets, summarized in capsule form in the following paragraphs.

## SUMMER CAMPS

More than 6,750 cadets attended the four summer camps at RCAF Stations Vancouver, Trenton, Saint-Jean and Greenwood. Accompanied by their own officers and instructors, the boys got into the swim of station life and enjoyed the biggest thrill of all — familiarization flights in RCAF aircraft.

The camps are designed to familiarize cadets with air force life, to provide advanced instruction on syllabus subjects, and give cadets an opportunity of enjoying outdoor sports and other traditional camp activities. Of two weeks duration, the camps are usually organized in the form of a "station-within-a-station", providing the cadets with separate living quarters, classrooms, lounge, and recreation facilities. In addition to cadet activities, summer camps provide an opportunity to train officers, instructors and NCOs for the squadrons.

## SCHOLARSHIP FLYING TRAINING

Extremely good results have been reported from the RCAF flying scholarship program, under which 250 cadets train each summer at member clubs of the Royal Canadian Flying Clubs Association. While final statistics have not been compiled at this writing, it is known that at least 224, or 90 percent, of the

cadets passed the initial written and flying tests to qualify for private pilots licenses and air cadet "wings". This effort was supplemented by more than 75 private or "non-service" scholarships granted by local and provincial committees of the Air Cadet League to cadets who trained at flying clubs or schools located in the vicinity of their homes. The flying courses last for approximately five weeks and each cadet receives 35 hours of actual air instruction, plus 60 hours of ground school.

Top marks on the scholarship course this year were obtained by G. Kostyrsky of No. 518 Rosemont Sqn., who has been named winner of the Banker Bates Trophy and, in addition, will receive the Canadian Pacific Airlines Award.

## SENIOR LEADERS COURSE

Thanks to a quota increase granted by the RCAF in time for the 1962 operation, a new high was also set for the Senior Leaders' Course when 240 cadets reported for training at Camp Borden.

As in previous years, the seven-week course was held under the direction of the highly qualified staff of No. 1 Supervisor Service Training School. The aim of the course is to provide instruction in leadership subjects and also to turn out qualified drill instructors for the squadrons. This course is rated as probably the finest single avenue of training open to air cadets and consideration is being given to possible ways of increasing the number of cadets to receive such training in future years.

Top cadet on the course this year was A. T. Platana of No. 51 Ottawa Optimist Sqn. In second and third places, respectively, were FS David



Canadian air cadets meet Her Majesty Queen Elizabeth during their British Tour. Occasion was the dedication services of a new city hall in Plymouth.



British air cadets visiting Canada under the International Exchange Visits Plan inspect the British Commonwealth Air Forces Memorial in Ottawa.

Cadet Terry Platana, of No. 51 Ottawa Optimist Sqn., receives the Garner Trophy from its donor, H. L. Garner, a past president of the Air Cadet League. Terry's parents observe the presentation, given to the top cadet on the Senior Leaders' Course at Camp Borden.

G/C R. A. Gordon, CO of RCAF Stn. Greenwood, inspects air cadets at the close of the fourth and final summer camp held at his station.



Jurkowski of 172 Toronto Sqn. and FS Gregory MacDonald of 570 Edmonton Sqn. In addition to winning the Garner Trophy, awarded to the top cadet on the course, Cadet Platana was named second winner of the Trans-Canada Airlines Award.

#### EXCHANGE VISITS

Considerable interest was focused this summer on the International

Exchange Visits program, due largely to the fact that the Canadian scheme was expanded in 1962 to include five additional European countries. Fifty-eight outstanding cadets were selected from all provinces to travel in groups of 25 to Britain, 15 to the United States, and two each to Norway, Sweden, Holland, Denmark, and the five new countries, France, West Germany, Belgium, Italy and Israel.

Reciprocal parties of cadets from the 11 participating countries were entertained by the League and the RCAF in Canada. The British party toured Ontario and Quebec; the Continental group travelled west to British Columbia with a weekend in Alberta enroute; while the US cadets were feted in Quebec, Ontario and Manitoba.

The exchange visits program relies for its success upon extensive co-

operation of the air forces and civilian sponsoring organizations in the various countries involved. The interlocking airlift schedule, utilizing the USAF base at Rhein/Main, Germany, as the major assembly point, is an example of international co-operation that might well be extended into other fields.

### PROVINCIAL COMMITTEE MEETINGS

Dates have been set for the annual meetings of the League's provincial committees as follows: Nova Scotia — 9 October; Newfoundland — 11 October; Prince Edward Island — 12 October; New Brunswick — 13 October; Ontario — 20 October; Northwestern Ontario — 22 October; Manitoba — 23 October; Saskatchewan — 25 October; British

Columbia — 27 October; Alberta — 30 October; and Quebec — 3 November.

The provincial meetings will be followed, on 3 December, by the semi-annual meeting of the National Executive Committee and Advisory Board to be held in Ottawa. Matters brought forward by the provincial committees will be considered by the National Executive at this time.

### RCAF ASSOCIATION CONVENTION COVERAGE

Report on the RCAF's 12th National Convention, held in Halifax 27-28-29 Sept., will appear in the November issue of THE ROUND.

Due Next Month:

## 1962 AIR FORCE COLLEGE JOURNAL

THE 1962 JOURNAL, due off the press early in November, will include articles contributed by General Freiherr Geyr von Schweppenburg, German Army (ret.); Brigadier General S.L.A. Marshall, US Army (ret.); Dr Peyton V. Lyon, University of Western Ontario; Colonel A. A. Jordan and Lieutenant Colonel W. F. Schless, US Army; Squadron Leader H. Bird, RAF; Mr. G. D. Kaye, Defence Research Board; Colonel G. M. C. Sprung, Canadian Army; and Mr. Mark Gayn, an authority on Soviet Affairs.

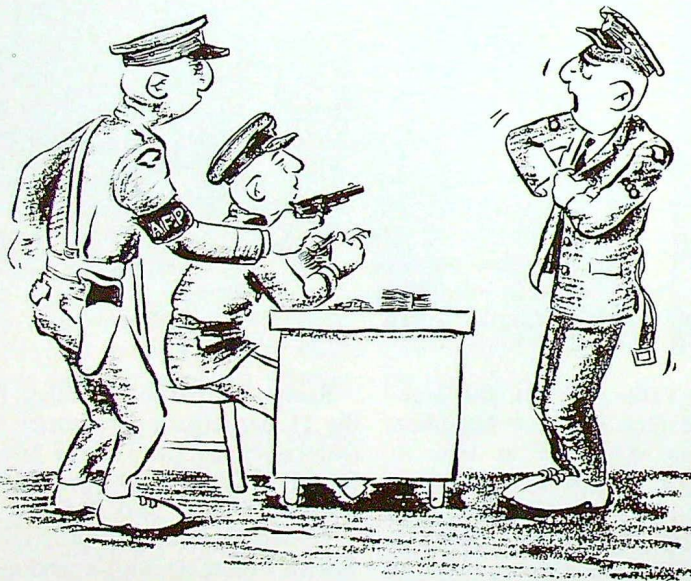
The following books will be reviewed this year: Trenchard, by Boyle; History of Soviet Air Power, by Kilmarx; Sino-Soviet Conflict 1956-61, by Zagoria; Arms and Arms Control, by Lefever; Air Bombardment — The Story of Its Development, by Saundby; The Conduct of War 1789-1961, by Fuller; Guerrillas in the 1960's, by Paret and Sly; and Mao Tse Tung on Guerrilla Warfare, by Griffiths.

As usual, THE JOURNAL will contain the best of the essays submitted in the 1962 Essay Contest, as well as a number of other timely articles of military interest.

The price of THE JOURNAL is \$1.00 per copy. Subscriptions should be sent to The Editor, AIR FORCE COLLEGE JOURNAL, Air Force College, Armour Heights, Toronto 12, Ontario. Payment may be sent with the subscription or on receipt of an invoice. Cheques, including exchange, should be made payable to the AIR FORCE COLLEGE JOURNAL.

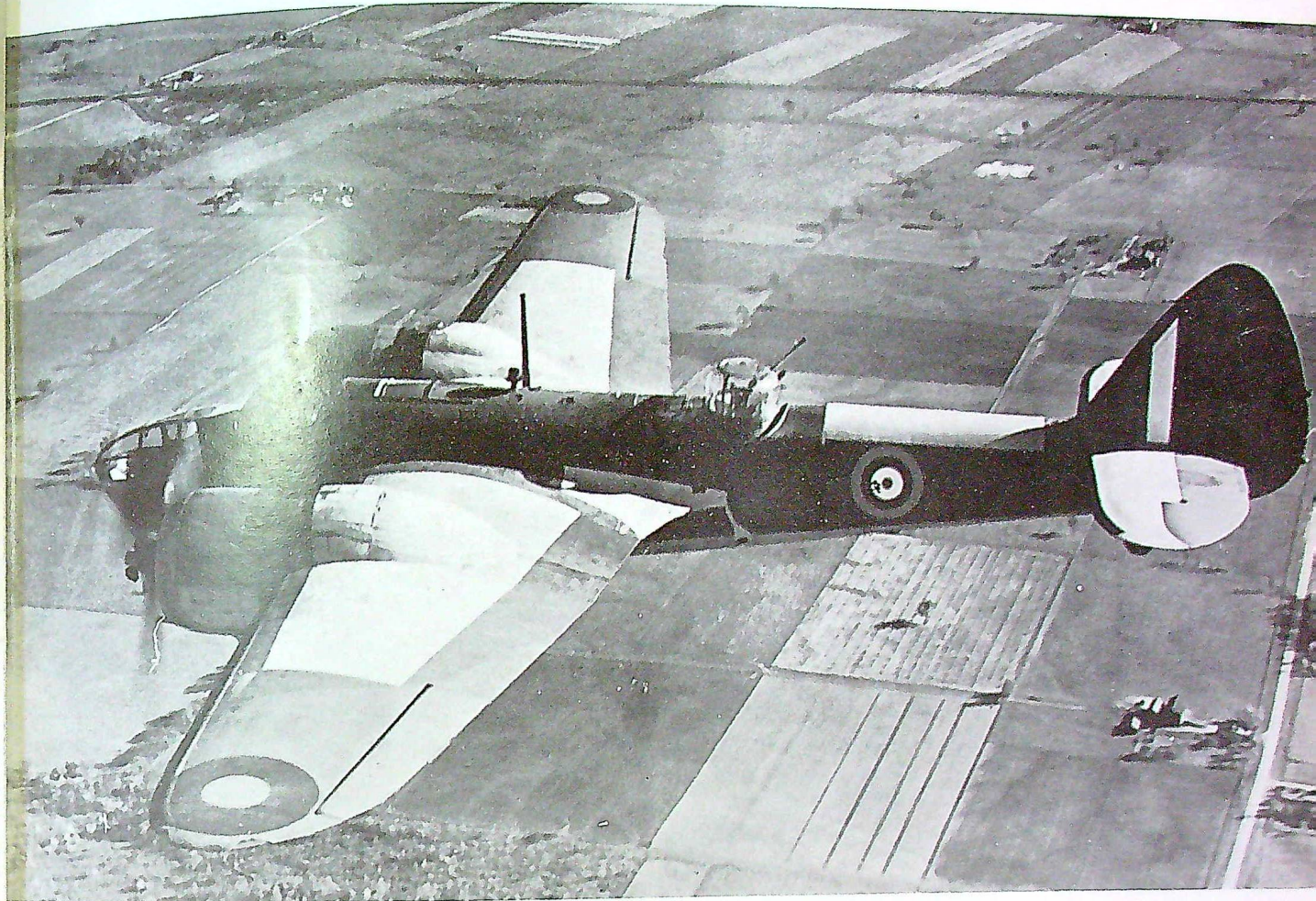
*On the Line*

by LAROUCHE '62



"KNOCK IT OFF, NESS, I'M ONLY DIGGING FOR MY "I" CARD."

## Aircraft Album: Bolingbroke



THE *Bolingbroke* was used by the RCAF as a coastal patrol and anti-submarine aircraft during World War II, and was flown from both Canadian coasts. It was the Canadian-made version of the Bristol *Blenheim*, and more than 600 were produced under licence for the RCAF by Fairchild Aviation Ltd. of Montreal.

The machine first went into operational service in July 1940 with No. 119 (BR) Sqn., which flew them from east coast bases for almost two years. No. 8 (BR) Sqn. also flew them from the east coast, and later from the west coast after Japan entered the war. Four other bomber-reconnaissance squadrons which operated on the west coast also flew the *Bolingbroke*. These were Nos. 115, 147, 149, and 163. In

addition, the aircraft was used in the training schools and in target-towing, calibration and composite units. *Bolingbrokes* of Eastern Air Command made three attacks on enemy submarines, and in Western Air Command a *Bolingbroke* of No. 115 (BR) Sqn. was credited with a share in the sinking of a Japanese submarine in July 1942.

In its anti-submarine role, the aircraft carried a crew of four and four 250-pound bombs or depth charges. It was powered by two Pratt and Whitney "Twin Wasp Junior" engines. Maximum speed was 266 miles an hour at 14,000 feet and service ceiling was 28,400 feet. It had a range of 1,400 miles with full bomb load. The armament was one .303 Browning machine gun in the wing and one or two Brownings in the mid-upper turret.

*Roger Duhamel*

*The Queen's Printer — L'Imprimeur de la Reine*

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